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To W. P. White

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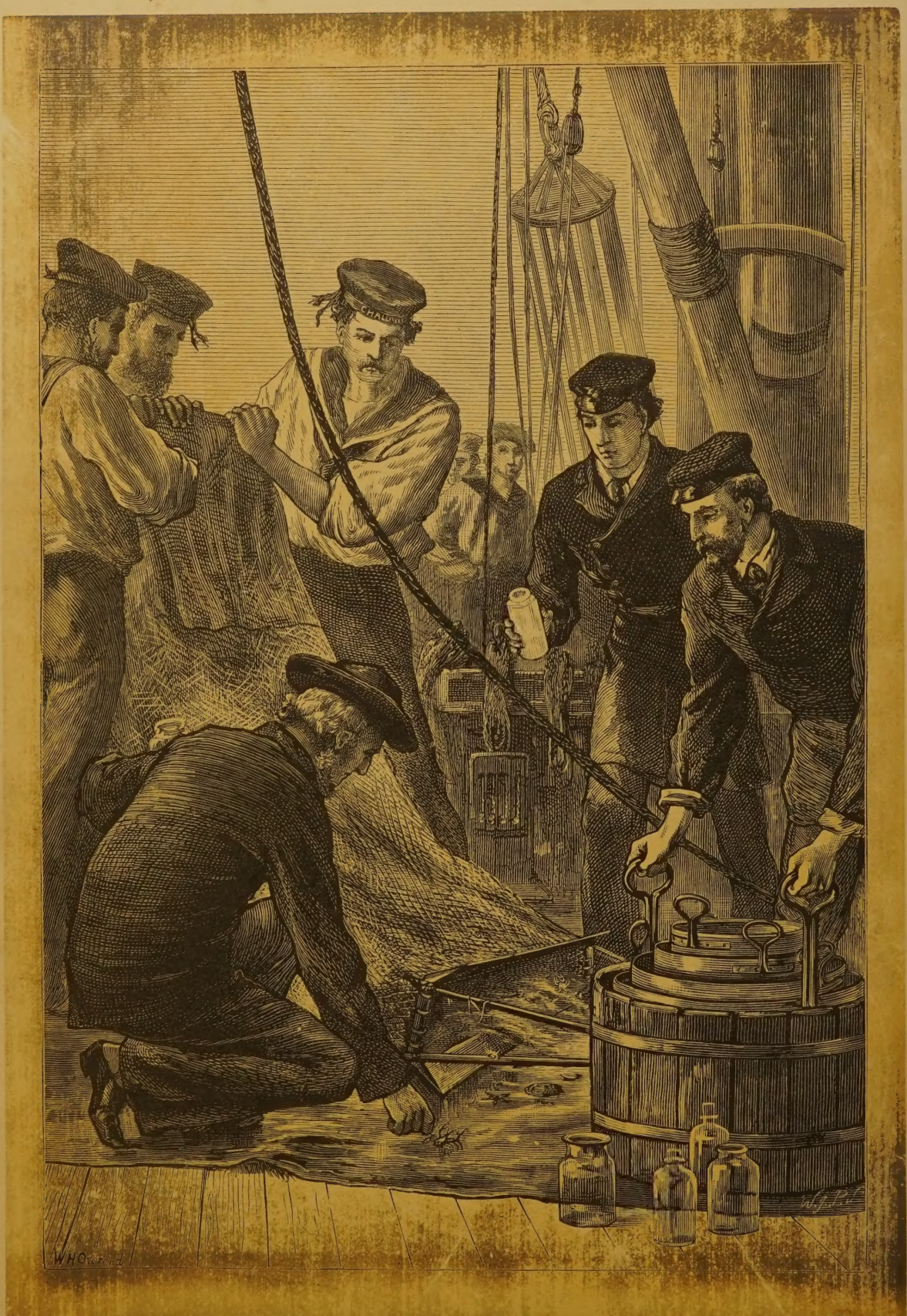

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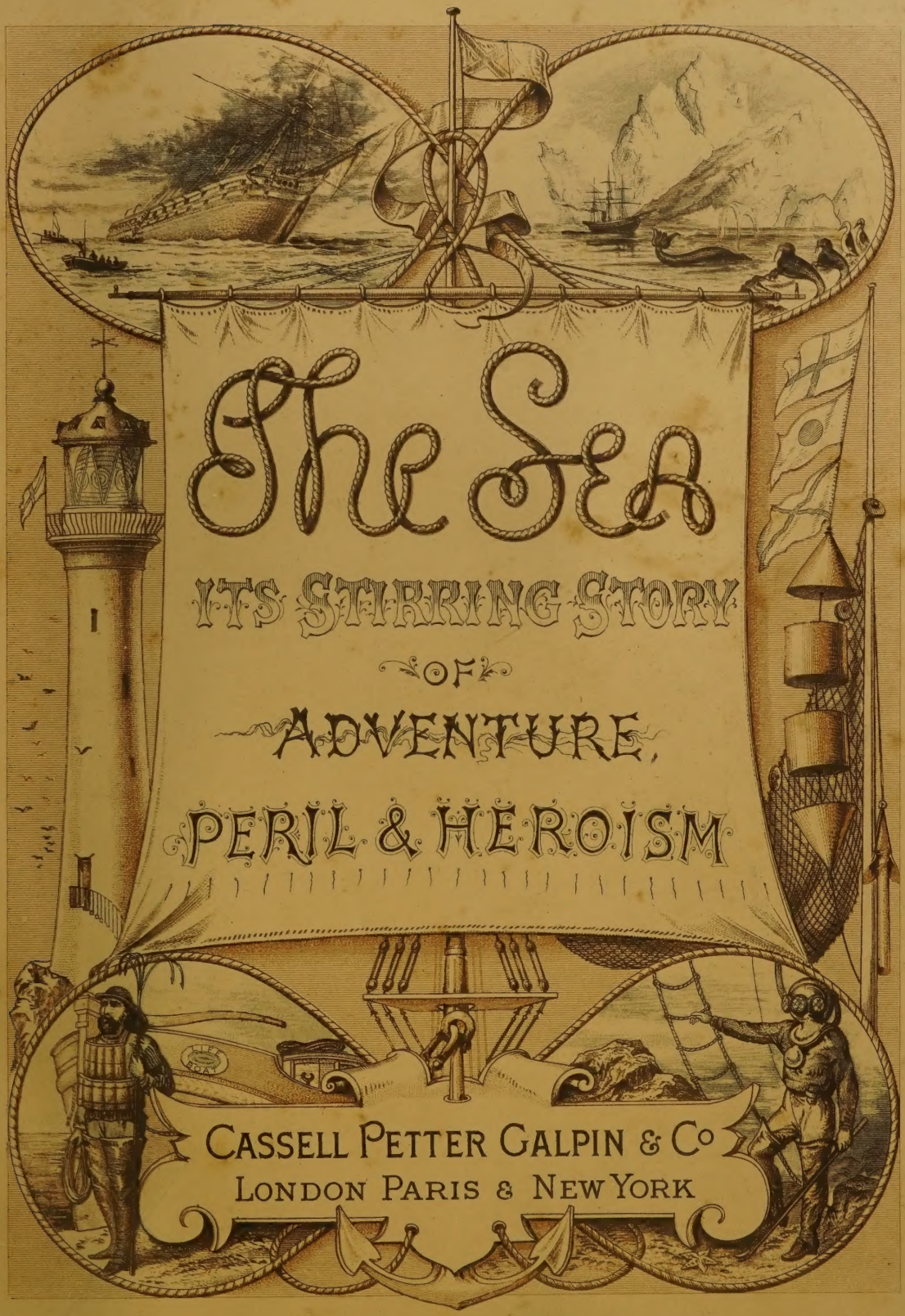

The Sea

Its Stirring Story of Adventure, Peril & Heroism

Cassell Petter Galpin & Co
London Paris & New York

THE SEA:

Its Stirring Story of Adventure, Peril, & Heroism.

BY

F. WHYMPER,

AUTHOR OF "TRAVELS IN ALASKA," ETC.

ILLUSTRATED.

*

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Vincent Brooks Day & Son Lith

BRITISH CROSSES & MEDALS. see Key

BRITISH CROSSES AND MEDALS.—*(Coloured Frontispiece.)*

1. Medal of Elizabeth. (Defeat of the Armada, 1588.)

2. Crimea Medal and Naval Clasp for Azoff (1854-6).

5. Naval Medal of Commonwealth (1650).

3. China Medal with Two Naval Clasps (1857-58).

4. Naval War Medal Ribbon (1793, 1840).

6. Conspicuous Gallantry Ribbon (1854, 1874).

7. Naval Medal of Commonwealth (Blake's Victories over the Dutch) (1653).

8. Naval Medal of Charles II.

9. Naval Medal of Commonwealth (Blake's Victories over the Dutch) (1653.)

10. Collar of the Order of the Bath.

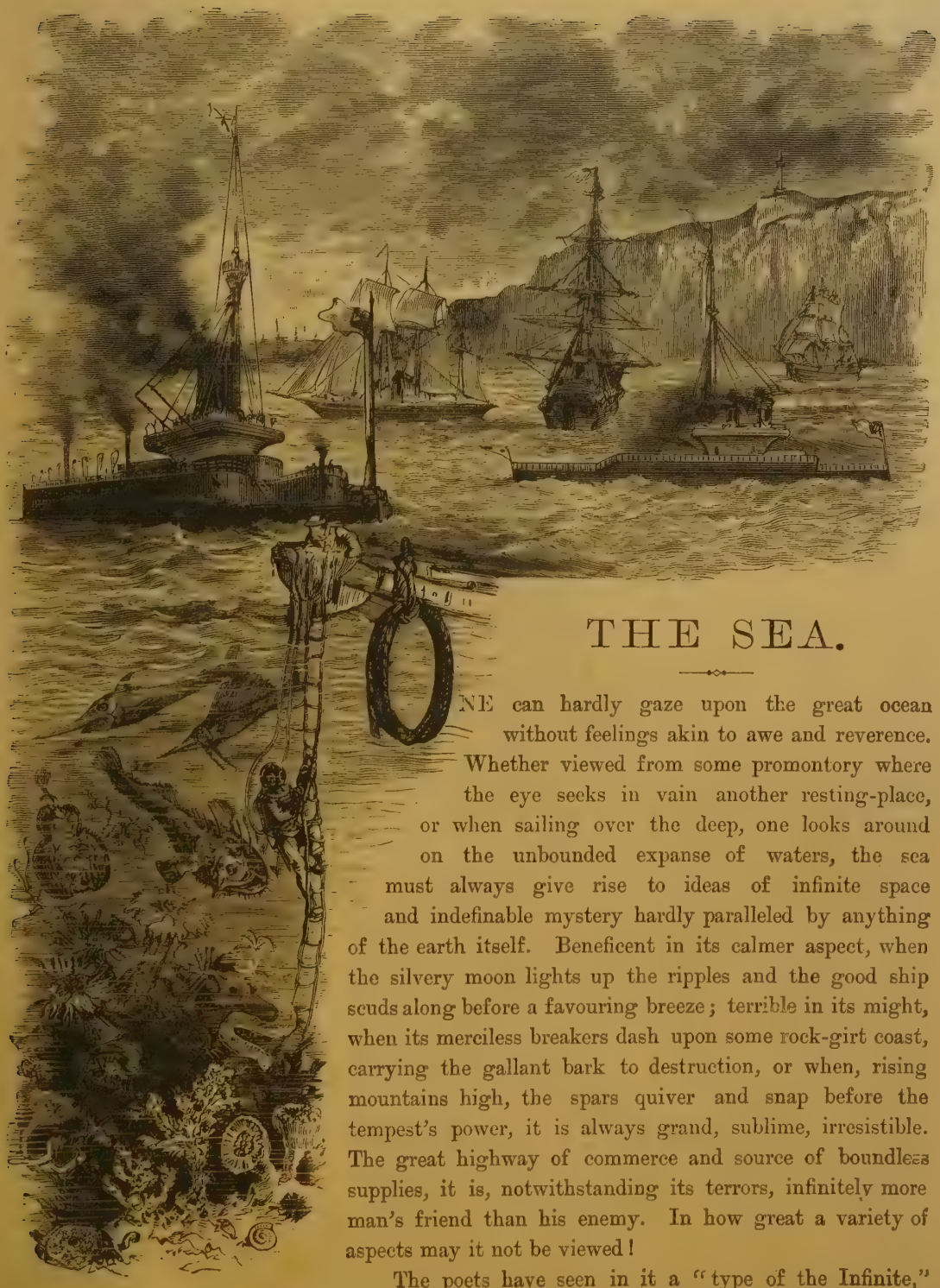
11. Good Conduct and Long-service Medal.

12. Baltic Medal (1854).

13. Victoria Cross with Naval Ribbon.

15. Albert Medal (Sea).

14. Badge of the Knights of the Bath (Military and Naval Division).



THE SEA.

ONE can hardly gaze upon the great ocean without feelings akin to awe and reverence. Whether viewed from some promontory where the eye seeks in vain another resting-place, or when sailing over the deep, one looks around on the unbounded expanse of waters, the sea must always give rise to ideas of infinite space and indefinable mystery hardly paralleled by anything of the earth itself. Beneficent in its calmer aspect, when the silvery moon lights up the ripples and the good ship scuds along before a favouring breeze; terrible in its might, when its merciless breakers dash upon some rock-girt coast, carrying the gallant bark to destruction, or when, rising mountains high, the spars quiver and snap before the tempest's power, it is always grand, sublime, irresistible. The great highway of commerce and source of boundless supplies, it is, notwithstanding its terrors, infinitely more man's friend than his enemy. In how great a variety of aspects may it not be viewed!

The poets have seen in it a "type of the Infinite,"

and one of the greatest* has taken us back to those early days of earth's history when God said—

> "'Let there be firmament
> Amid the waters, and let it divide
> The waters from the waters.' . . .
> So He the world
> Built on circumfluous waters calm, in wide
> Crystalline ocean."

"Water," said the great Greek lyric poet,† "is the chief of all." The ocean covers nearly three-fourths of the surface of our globe. Earth is its mere offspring. The continents and islands have been and *still are being* elaborated from its depths. All in all, it has not, however, been treated fairly at the hands of the poets, too many of whom could only see it in its sterner lights. Young speaks of it as merely a

> "Dreadful and tumultuous home
> Of dangers, at eternal war with man,
> Wide opening and loud roaring still for more,"

ignoring the blessings and benefits it has bestowed so freely, forgetting that man is daily becoming more and more its master, and that his own country in particular has most successfully conquered the seemingly unconquerable. Byron, again, says :—

> "Roll on, thou dark and deep blue ocean—roll!
> Ten thousand fleets sweep over thee in vain;
> Man marks the earth with ruin—his control
> Stops with the shore; upon the watery plain
> The wrecks are all thy deeds."

And though this is but the exaggerated and not strictly accurate language of poetry, we may, with Pollok, fairly address the great sea as "strongest of creation's sons." The first impressions produced on most animals—not excluding altogether man—by the aspect of the ocean, are of terror in greater or lesser degree. Livingstone tells us that he had intended to bring to England from Africa a friendly native, a man courageous as the lion he had often braved. He had never voyaged upon nor even beheld the sea, and on board the ship which would have safely borne him to a friendly shore he became delirious and insane. Though assured of safety and carefully watched, he escaped one day, and blindly threw himself headlong into the waves. The sea terrified him, and yet held and drew him, fascinated as under a spell. "Even at ebb-tide," says Michelet,‡ "when, placid and weary, the wave crawls softly on the sand, the horse does not recover his courage. He trembles, and frequently refuses to pass the languishing ripple. The dog barks and recoils, and, according to his manner, insults the billows which he fears. . . . We are told by a traveller that the dogs of Kamtschatka, though accustomed to the spectacle, are not the less terrified and irritated by it. In numerous troops, they howl through the protracted night against the howling waves, and endeavour to outvie in fury the Ocean of the North."

* Milton. † Pindar.

‡ "La Mer." There is much truth in Michelet's charming work, but often, as above, presented in an exaggerated form. Animals, in reality, soon become accustomed to the sea. They show generally, however, a considerable amount of indisposition to go on board a vessel.

The civilised man's fear is founded, it must be admitted, on a reasonable knowledge of the ocean, so much his friend and yet so often his foe. Man is not independent of his fellow-man in distant countries, nor is it desirable that he should be. No land produces all the necessaries, and the luxuries which have begun to be considered necessaries, sufficient for itself. Transportation by land is often impracticable, or too costly, and the ocean thus becomes the great highway of nations. Vessel after vessel, fleet after fleet, arrive safely and speedily. But as there is danger for man lurking everywhere on land, so also is there on the sea. The world's wreck-chart for one year must, as we shall see hereafter, be something appalling. That for the British Empire alone in one year has often exceeded 1,000 vessels, great and small! Averaging three years, we find that there was an annual loss during that period of 1,095 vessels and 1,952 lives.* Nor are the ravages of ocean confined to the engulfment of vessels, from rotten "coffin-ships" to splendid ironclads. The coasts often bear witness of her fury.

The history of the sea virtually comprises the history of adventure, conquest, and commerce, in all times, and might almost be said to be that of the world itself. We cannot think of it without remembering the great voyagers and sea-captains, the brave naval commanders, the pirates, rovers, and buccaneers of bygone days. Great sea-fights and notable shipwrecks recur to our memory—the progress of naval supremacy, and the means by which millions of people and countless millions of wealth have been transferred from one part of the earth to another. We cannot help thinking, too, of "Poor Jack" and life before the mast, whether on the finest vessel of the Royal Navy, or in the worst form of trading ship. We recall the famous ships themselves, and their careers. We remember, too, the "toilers of the sea"—the fishermen, whalers, pearl-divers, and coral-gatherers; the noble men of the lighthouse, lifeboat, and coastguard services. The horrors of the sea—its storms, hurricanes, whirlpools, waterspouts, impetuous and treacherous currents—rise vividly before our mental vision. Then there are the inhabitants of the sea to be considered—from the tiniest germ of life to the great leviathan, or even the doubtful sea-serpent. And even the lowest depths of ocean, with their mountains, valleys, plains, and luxurious marine vegetation, are full of interest; while at the same time we irresistibly think of the submerged treasure-ships of days gone by, and the submarine cables of to-day. Such are among the subjects we propose to lay before our readers. The Sea, as one great topic, must comprise descriptions of life on, around, and in the ocean—the perils, mysteries, phenomena, and poetry of the great deep. The subject is too vast for superfluous detail: it would require as many volumes as a grand encyclopædia to do it justice; whilst a formal and chronological history would weary the reader. At all events, the present writer purposes to occasionally gossip and digress, and to arrange facts in groups, not always following the strict sequence of events. The voyage of to-day may recall that of long ago: the discovery made long ago may be traced, by successive leaps, as it were, to its results in the present epoch. We can hardly be wrong in believing that this grand subject has an especial interest for the English reader everywhere; for the spirit of enterprise, enthusiasm, and daring which has carried our flag to the uttermost parts of the earth, and has made the proud words "Britannia rules the waves" no idle vaunt, is shared by a very large

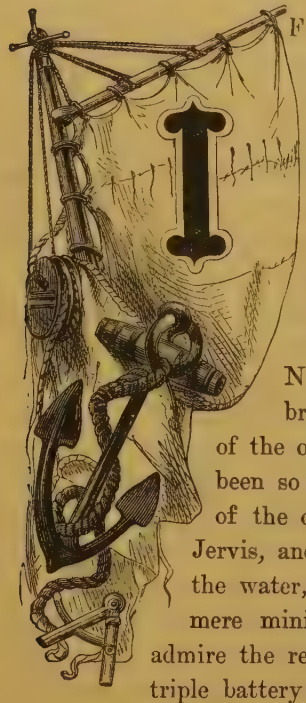
* W. S. Lindsay, "History of Merchant Shipping," &c.

proportion of her sons and daughters, at home and abroad. Britain's part in the exploration and settlement of the whole world has been so pre-eminent that there can be no wonder if, among the English-speaking races everywhere, a peculiar fascination attaches to the sea and all concerning it. Countless thousands of books have been devoted to the land, not a tithe of the number to the ocean. Yet the subject is one of almost boundless interest, and has a special importance at the present time, when England's Royal Navy is rapidly regaining the *prestige* which some croakers thought she had lost, while her mercantile marine was never more prosperous.

CHAPTER I.

MEN-OF-WAR.

Our Wooden Walls—The *Victory*—Siege of Toulon—Battle of St. Vincent—Nelson's Bridge—Trafalgar's glorious Day—The Day for such Battles gone—Iron *v.* Wood—Lessons of the Crimean War—Moral Effect of the Presence of our Fleets—Bombardment of Sebastopol—Red-hot Shot and Gibraltar—The Ironclad Movement—The *Warrior*—Experiences with Ironclads—The *Merrimac* in Hampton Roads—A speedily decided Action—The *Cumberland* sunk and *Congress* burned—The first Monitor—Engagement with the *Merrimac*—Notes on recent Actions—The *Shah* and *Huascar*—Bombardment of Alexandria.



IF the reader should at any time find himself a visitor to the first naval port of Great Britain—which he need not be told is Portsmouth—he will find, lying placidly in the noble harbour, which is large enough to accommodate a whole fleet, a vessel of modern-antique appearance, and evidently very carefully preserved. Should he happen to be there on October 21st, he would find the ship gaily decorated with wreaths of evergreen and flags, her appearance attracting to her side an unusual number of visitors in small boats from the shore. Nor will he be surprised at this when he learns that it is none other than the famous *Victory*, that carried Nelson's flag on the sad but glorious day of Trafalgar, and went bravely through so many a storm of war and weather. Very little of the oft-shattered hulk of the original vessel remains, it is true—she has been so often renewed and patched and painted; yet the lines and form of the old three-decker remain to show us what the flag-ship of Hood, and Jervis, and Nelson was in general appearance. She towers grandly out of the water, making the few sailors and loiterers on deck look like marionettes—mere miniature men; and as our wherry approaches the entrance-port, we admire the really graceful lines of the planks, diminishing in perspective. The triple battery of formidable guns, peeping from under the stout old ports which overshadowed them, the enormous cables and spare anchors, and the immensely thick masts, heavy shrouds and rigging, which she had in old times, must have given an impression of solidity in this good old "heart of oak" which is wanting even in

the strongest-built iron vessel. Many a brave tar has lost his life on her, but yet she is no coffin-ship. On board, one notes the scrupulous order, the absolute perfection of cleanliness and trimness; the large guns and carriages alternating with the mess-tables of the crew. And we should not think much of the man who could stand emotionless and unmoved over the spots—still pointed out on the upper deck and cockpit below—where Nelson fell and Nelson died, on that memorable 21st, off Trafalgar Bay.

THE "VICTORY" AT PORTSMOUTH.

He had embarked, only five weeks before, from the present resting-place of his brave old ship, when enthusiastic crowds had pressed forward to bless and take one last look at England's preserver. "I had their hurrahs before," said the poor shattered hero; "now I have their hearts!" And when, three months later, his body was brought home, the sailors divided the leaden coffin into fragments, as relics of "Saint Nelson," as his gunner had termed him.

The *Victory* was one of the largest ships of war of her day and generation. She was rated for 100 guns, but really carried 102, and was classed first-rate with such ships as the *Royal Sovereign* and *Britannia*, both of 100, carrying only two in excess of the "brave old *Téméraire*"—made still more famous by Turner's great picture—and the *Dreadnought*, which

but a few years back was such a familiar feature of the reach of the Thames in front of Greenwich. She was of 2,164 tons burden, and, having been launched in 1765, is now a good 112 years of age. Her complement was 841 men. From the first she deserved her name, and seemed destined to be associated with little else than success and triumph. Nelson frequently complains in his journals of the unseaworthiness of many of his vessels; but this, his last flag-ship, was a veritable "heart of oak," and endured all the tests that the warfare of the elements or of man could bring against her.

The good ship of which we have spoken more particularly is now enjoying a well-earned repose, after passing nearly unscathed through the very thick of battles inscribed on the most brilliant page of our national history. Her part was in reality a very prominent one; and a glance at a few of the engagements at which she was present may serve to show us what she and other ships like her were made of, and what they were able to effect in naval warfare. The *Victory* had been built nearly thirty years when, in 1793, she first came prominently to the front, at the occupation and subsequent siege of Toulon, as the flag-ship of Lord Hood, then in command of a large fleet destined for the Mediterranean.

France was at that moment in a very revolutionary condition, but in Toulon there was a strong feeling of loyalty for the Bourbons and monarchical institutions. In the harbour a large French fleet was assembled—some seventeen vessels of the line, besides many other smaller craft—while several large ships of war were refitting and building; the whole under the command of the Comte de Trogoff, an ardent Royalist. On the appearance of the British fleet in the offing, two commissioners came out to the flag-ship, the *Victory*, to treat for the conditional surrender of the port and shipping. The Government had not miscalculated the disaffection existing, and the negotiations being completely successful, 1,700 of our soldiers, sailors, and marines were landed, and shortly afterwards, when a Spanish fleet appeared, an English governor and a Spanish commandant were appointed, while Louis XVII. was proclaimed king. But it is needless to say that the French Republic strongly objected to all this, and soon assembled a force numbering 45,000 men for the recapture of Toulon. The English and their Royalist allies numbered under 13,000, and it became evident that the city must be evacuated, although not until it should be half destroyed. The important service of destroying the ships and magazines had been mainly entrusted to Captain Sir Sidney Smith, who performed his difficult task with wonderful precision and order, and without the loss of one man. Shots and shells were plunged into the very arsenal, and trains were laid up to the magazines and storehouses; a fire-ship was towed into the basin, and in a few hours gave out flames and shot, accompanied by terrible explosions. The Spanish admiral had undertaken the destruction of the shipping in the basin, and to scuttle two powder-vessels, but his men, in their flurry, managed to ignite one of them in place of sinking it, and the explosion which occurred can be better imagined than described. The explosion shook the *Union* gunboat to pieces, killing the commander and three of the crew; and a second boat was blown into the air, but her crew were miraculously saved. Having completed the destruction of the arsenal, Sir Sidney proceeded towards the basin in front of the town, across which a boom had been laid, where he and his men were received with such volleys of musketry that they turned their attention in another direction. In the inner road were lying two large 74-gun

ships—the *Héros* and *Thémistocle*—filled with French prisoners. Although the latter were greatly superior to the attacking force, they were so terrified that they agreed to be removed and landed in a place of safety, after which the ships were destroyed by fire. Having done all that man could do, they were preparing to return, when the second powder-vessel, which should only have been scuttled by the Spaniards, exploded. Wonderful to relate, although the little *Swallow*, Sir Sidney's tender, and three boats were in the midst of the falling timbers, and nearly swamped by the waves produced, they escaped in safety. Nowadays torpedoes would settle the business of blowing up vessels of the kind in a much safer and surer manner. The evacuation was effected without loss, nearly 15,000 Toulonese refugees—men, women, and children—being taken on board for removal to England. Fifteen French ships of war were taken off as prizes, while the magazines, storehouses, and shipping were destroyed by fire. The total number of vessels taken or burned by the British was eighteen of the line, nine frigates, and eleven corvettes, and would have been much greater but for the blundering or treachery of the Spaniards, and the pusillanimous flight of the Neapolitans. Thus the *Victory* was the silent witness of an almost bloodless success, so far as our forces were concerned, in spite of the noise and smoke and flame by which it was accompanied. A little later, she was engaged in the siege of Bastia, Corsica, which was taken by a naval force numbering about one-fourth of their opponents; and again at Calvi, where Nelson lost an eye and helped to gain the day. In the spring of 1795 she was again in the Mediterranean, and for once was engaged in what has been described as a "miserable action," although the action, or want thereof, was all on the part of a vice-admiral who, as Nelson said, "took things too coolly." Twenty-three British line-of-battle ships, whilst engaging, off the Hyères Isles, only seventeen French, with the certainty of triumphant results, if not, indeed, of the complete annihilation of the enemy, were signalled by Admiral Hotham to discontinue the fight. The disgust of the commanders in general and Nelson in particular can well be understood. The only prize taken, the *Alcide*, blew up, with the loss of half her crew, as if in very disgust at having surrendered, and we can well believe that even the inanimate timbers of the *Victory* and her consorts groaned as they were drawn off from the scene of action. The fight off the Hyères must be inscribed in black, but happily the next to be recorded might well be written with letters of gold in the annals of our country, although its glory was soon afterwards partially eclipsed by others still greater.

When Sir John Jervis hoisted his flag on board the *Victory* it marked an epoch not merely in our career of conquest, but also in the history of the navy as a navy. Jervis, though then over sixty years of age, was hale and hearty, and if sometimes stern and severe as a disciplinarian, should long be remembered as one who honestly and constantly strove to raise the character of the service to its highest condition of efficiency, and he was brave as a lion. As the Spanish fleet loomed through the morning fog, off Cape St. Vincent, it was found that Cordova's force consisted of twenty-nine large men-of-war, exclusive of a dozen 34-gun frigates, seventy transports, and other vessels. Jervis was walking the quarter-deck as the successive reports were brought to him. "There are eighteen sail of the line, Sir John." "Very well, sir." "There are twenty sail, Sir John." "Very well, sir." "There are twenty-seven sail of the line, Sir John; nearly double our own." "Enough, sir, no more of

that, sir; if there are fifty I'll go through them." "That's right, Sir John," said Halliwell, his flag-captain, "and a jolly good licking we'll give them."

The grand fleet of Spain included six ships of 112 guns each, and the flag-ship *Santissima Trinidada*, a four-decker, carrying 130. There were, besides, twenty-two vessels of eighty and seventy-four guns. To this large force Jervis could only oppose fifteen vessels of the line, only two of which carried 100 guns, three of ninety-eight guns, one of ninety, and the remainder, with one exception, seventy-four each. Owing to gross mismanagement on the part of the Spaniards, their vessels were scattered about in all directions, and six * of them were separated wholly from the main body, neither could they rejoin it. The English vessels advanced in two lines, compactly and steadily, and as they neared the Spaniards, were signalled from the *Victory* to tack in succession. Nelson, on the *Captain*, was in the rear of the line, and he perceived that the Spaniards were bearing up before the wind, either with the intention of trying to join their separated ships, or perhaps to avoid an engagement altogether. By disobeying the admiral's signal, he managed to run clear athwart the bows of the Spanish ships, and was soon engaged with the great *Santissima Trinidada*, four other of the larger vessels, and two smaller ones. Trowbridge, in the *Culloden*, immediately came to the support, and for nearly an hour the unequal contest continued, till the *Blenheim* passed between them and the enemy, and gave them a little respite, pouring in her fire upon the Spaniards. One of the Spanish seventy-fours struck, and Nelson thought that the *Salvador*, of 112 guns, struck also. "Collingwood," wrote Nelson, "disdaining the parade of taking possession of beaten enemies, most gallantly pushed up, with every sail set, to save his old friend and messmate, who was, to appearance, in a critical situation," for the *Captain* was being peppered by five vessels of the enemy's fleet, and shortly afterwards was rendered absolutely incapable—not a sail, shroud, or rope left, with a topmast and the steering-wheel shot away. As Dr. Bennett sings †—

> "Ringed round by five three-deckers, she had fought through all the fight,
> And now, a log upon the waves, she lay—a glorious sight—
> All crippled, but still full of fight, for still her broadsides roared,
> Still death and wounds, fear and defeat, into the Don she poured."

Two of Nelson's antagonists were now nearly *hors de combat*, one of them, the *San Nicolas*, in trying to escape from Collingwood's fire, having got foul of the *San Josef*. Nelson resolved in an instant to board and capture *both*—an unparalleled feat, which, however, was accomplished, although

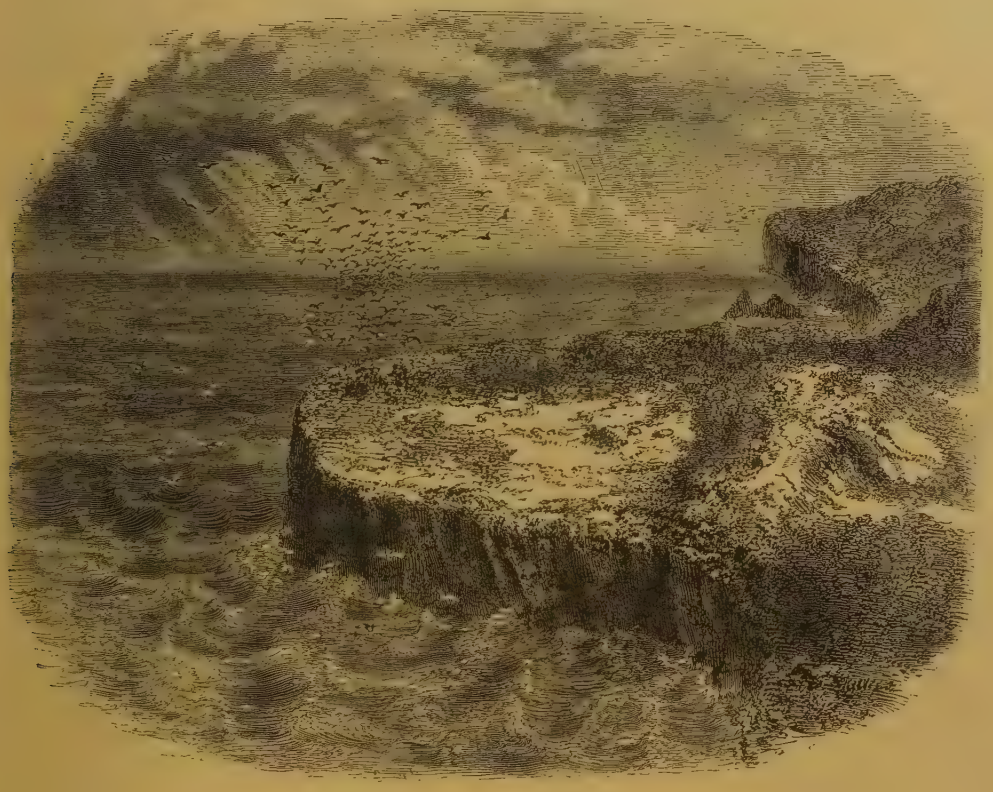
> "To get at the *San Josef*, it seemed beyond a hope;
> Out then our admiral spoke, and well his words our blood could stir—
> 'In, boarders, to their seventy-four! We'll make a bridge of her.'"

The "bridge" was soon taken; but a steady fire of musketry was poured upon them from the *San Josef*. Nelson directed his people to fire into the stern, and sending for more boarders, led the way up the main-chains, exclaiming, "Westminster Abbey or victory!" In a few moments the officers and crew surrendered; and on the quarter-deck of a Spanish first-rate he received the swords of the vanquished, which he handed to William Fearney,

* Southey, in his "Life of Nelson," says nine. † "Songs for Sailors."

one of his bargemen, who tucked them, with the greatest *sang-froid*, in a perfect sheaf under his arm. The *Victory* came up at the moment, and saluted the conquerors with hearty cheers.

It will be hardly necessary here to point out the altered circumstances of naval warfare at the present day. A wooden vessel of the old type, with large and numerous portholes, and affording other opportunities for entering or climbing the sides, is a



ROCKS NEAR CAPE ST. VINCENT.

very different affair to the modern smooth-walled iron vessel, on which a fly would hardly get a foothold, with few openings or weak points, and where the grappling-iron would be useless. Apart from this, with heavy guns carrying with great accuracy, and the facilities afforded by steam, we shall seldom hear, in the future, of a fight at close quarters; skilful manœuvring, impossible with a sailing vessel, will doubtless be more in vogue.

Meantime, the *Victory* had not been idle. In conjunction with two of the fleet, she had succeeded in silencing the *Salvador del Mundi*, a first-rate of 112 guns. When, after the fight, Nelson went on board the *Victory*, Sir John Jervis took him to his arms, and insisted that he should keep the sword taken from the Spanish rear-admiral. When it was hinted, during some private conversation, that Nelson's move was unauthorised,

Jervis had to admit the fact, but promised to forgive any such breach of orders, accompanied with the same measure of success.

The battle had now lasted from noon, and at five p.m. four Spanish line-of-battle vessels had lowered their colours. Even the great *Santissima Trinidada* might then have become a prize but for the return of the vessels which had been cut off from the fleet in the morning, and which alone saved her. Her colours had been shot away, and she had hoisted English colours in token of submission, when the other ships came up, and Cordova reconsidered his step. Jervis did not think that his fleet was quite equal to a fresh conflict; and the Spaniards showed no desire to renew the fight. They had lost on the four prizes, alone, 261 killed, and 342 wounded, and in all, probably, nearly double the above. The British loss was seventy-three killed, and 227 wounded.

Of Trafalgar and of Nelson, both day and man so intimately associated with our good ship, what can yet be said or sung that has gone unsaid, unsung?—how when he left Portsmouth the crowds pressed forward to obtain one last look at their hero—England's greatest hero—and "knelt down before him, and blessed him as he passed;"* that beautiful prayer, indited in his cabin, "May the great God whom I worship grant to my country, and for the benefit of Europe in general, a great and glorious victory, and may no misconduct in any one tarnish it, and may humanity after victory be the predominant feature of the British fleet," or the now historical signal which flew from the mizen top-gallant mast of that noble old ship, and which has become one of the grand mottoes of our tongue, are facts as familiar to every reader as household words.

The part directly played by the *Victory* herself in the battle of Trafalgar was second to none. From the very first she received a raking fire from all sides, which must have been indeed severe, when we find the words extorted from Nelson, "This is too warm work to last long," addressed to Captain Hardy. At that moment fifty of his men were lying dead or wounded, while the *Victory's* mizen-mast and wheel were shot away, and her sails hanging in ribbons. To the terrible cannonading of the enemy, Nelson had not yet returned a shot. He had determined to be in the very thick of the fight, and was reserving his fire. Now it was that Captain Hardy represented to Nelson the impracticability of passing through the enemy's line without running on board one of their ships; he was coolly told to take his choice. The *Victory* was accordingly turned on board the *Redoubtable,* the commander of which, Captain Lucas, in a resolute endeavour to block the passage, himself ran his bowsprit into the figurehead of the *Bucentaure,* and the two vessels became locked together. Not many minutes later, Captain Harvey, of the *Témêraire,* seeing the position of the *Victory* with her two assailants, fell on board the *Redoubtable,* on the other side, so that these four ships formed as compact a tier as though moored together. The *Victory* fired her middle and lower deck guns into the *Redoubtable,* which returned the fire from her main-deck, employing also musketry and brass pieces of larger size with most destructive effects from the tops.

"*Redoubtable* they called her—a curse upon her name!
'Twas from her tops the bullet that killed our hero came

* Southey's "Life of Nelson."

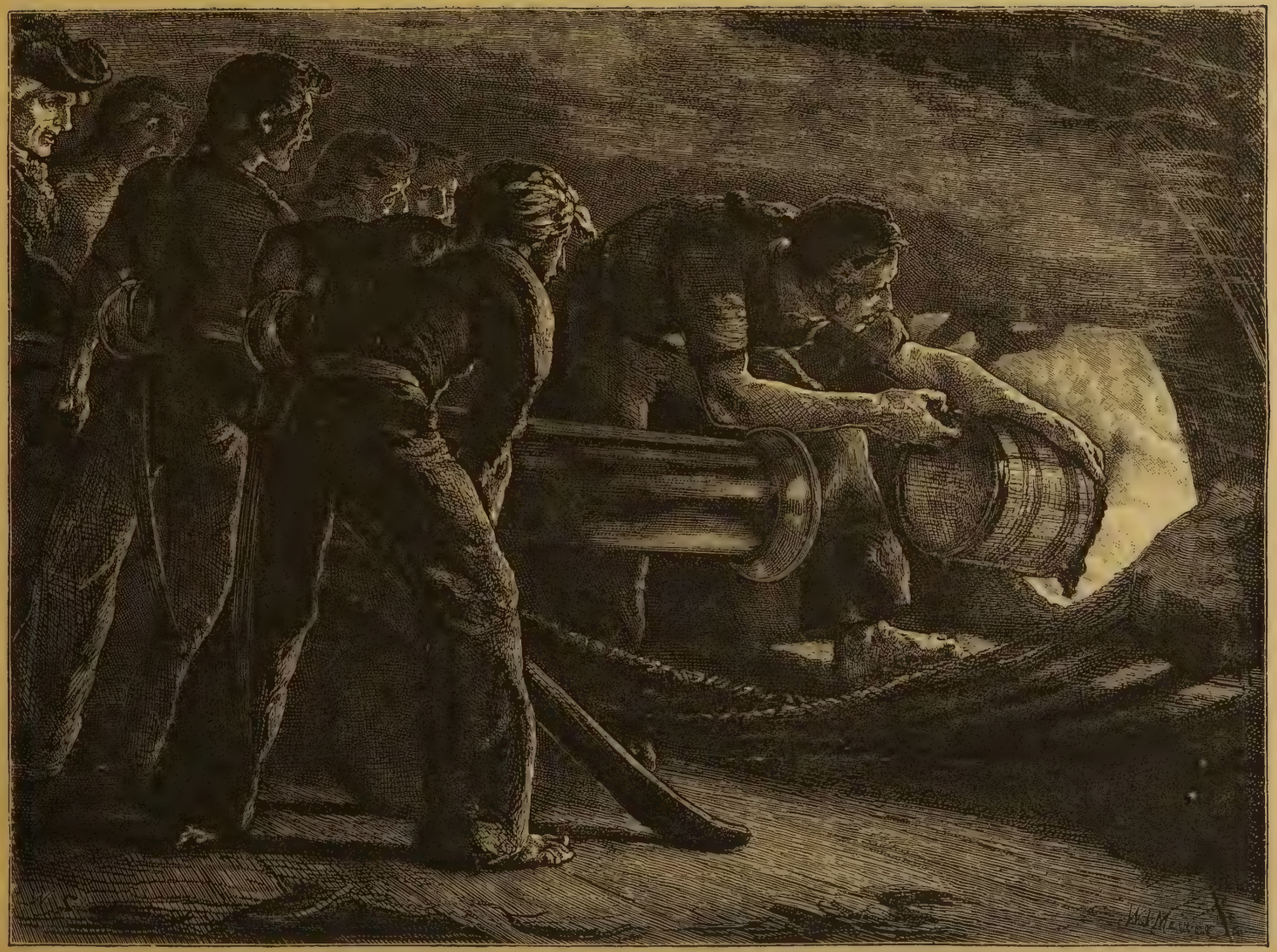
Within a few minutes of Lord Nelson's fall, several officers and about forty men were either killed or wounded from this source. But a few minutes afterwards the *Redoubtable* fell on board the *Téméraire*, the French ship's bowsprit passing over the British ship. Now came one of the warmest episodes of the fight. The crew of the *Téméraire* lashed their vessel to their assailants' ship, and poured in a raking fire. But the French captain, having discovered that—owing, perhaps, to the sympathy exhibited for the dying hero on board the *Victory*, and her excessive losses in men—her quarter-deck was quite deserted, now ordered an attempt at boarding the latter. This cost our flag-ship the lives of Captain Adair and eighteen men, but at the same moment the *Téméraire* opened fire on the *Redoubtable* with such effect that Captain Lucas and 200 men were themselves placed *hors de combat*.

In the contest we have been relating, the coolness of the *Victory's* men was signally evinced. "When the guns on the lower deck were run out, their muzzles came in contact with the sides of the *Redoubtable*, and now was seen an astounding spectacle. Knowing that there was danger of the French ship taking fire, the fireman of each gun on board the British ship stood ready with a bucketful of water to dash into the hole made by the shot of his gun—thus beautifully illustrating Nelson's prayer, 'that the British might be distinguished by humanity in victory.' Less considerate than her antagonist, the *Redoubtable* threw hand-grenades from her tops, which, falling on board herself, set fire to her, . . . and the flame communicated with the fore-sail of the *Téméraire*, and caught some ropes and canvas on the booms of the *Victory*, risking the destruction of all; but by immense exertions the fire was subdued in the British ships, whose crews lent their assistance to extinguish the flames on board the *Redoubtable*, by throwing buckets of water upon her chains and forecastle."*

Setting aside, for the purpose of clearness, the episode of the taking of the *Fougueux*, which got foul of the *Téméraire* and speedily surrendered, we find, five minutes later, the main and mizen masts of the *Redoubtable* falling—the former in such a way across the *Téméraire* that it formed a bridge, over which the boarding-party passed and took quiet possession. Captain Lucas had so stoutly defended his flag, that, out of a crew of 643, only 123 were in a condition to continue the fight; 522 were lying killed or wounded. The *Bucentaure* soon met her fate, after being defended with nearly equal bravery. The French admiral, Villeneuve, who was on board, said bitterly, just before surrendering, "*Le Bucentaure a rempli sa tâche; la mienne n'est pas encore achevée.*"

Let the reader remember that the above are but a few episodes of the most complete and glorious victory ever obtained in naval warfare. Without the loss of one single vessel to the conqueror, more than half the ships of the enemy were captured or destroyed, while the remainder escaped into harbour to rot in utter uselessness. Twenty-one vessels were lost for ever to France and Spain. It is to be hoped and believed that no such contest will ever again be needed; but should it be needed, it will have to be fought by very different means. The instance of four great ships locked together, dealing death and destruction to each other, has never been paralleled. Imagine that

* "Annals of the Wars of the Nineteenth Century," by the Hon. Sir Edward Cust, D.C.L., &c.



THE "VICTORY" AT CLOSE QUARTERS WITH THE "REDOUBTABLE."

seething, fighting, dying mass of humanity, with all the horrible concomitants of deafening noise and blinding smoke and flashing fire! It is not likely ever to occur in modern warfare. The commanders of steam-vessels of all classes will be more likely to fight at out-manœuvring and shelling each other than to come to close quarters, which would generally mean blowing up together. It would interesting to consider how Nelson would have acted with, and opposed to, steam-frigates and ironclads. He would, no doubt, have been as courageous and far-seeing and rapid in action as ever, but hardly as reckless, or even daring.

"And still, though seventy years, boys,
Have gone, who, without pride,
Names his name—tells his fame
Who at Trafalgar died?"

May we always have a Nelson in the hour of national need!

The day for such battles as this is over; there may be others as gloriously fought, but never again by the same means. Ships, armaments, and modes of attack and defence are, and will be, increasingly different. Those who have read Nelson's private letters and journals will remember how he gloried in the appreciation of his subordinate officers just before Trafalgar's happy and yet fatal day, when he had explained to them his intention to attack the enemy with what was practically a wedge-formed fleet. He was determined to break their line, and, Nelson-like, he did. But that which he facetiously christened the "Nelson touch" would itself nowadays be broken up in a few minutes and thrown into utter confusion by any powerfully-armed vessel hovering about under steam. Or if the wedge of wooden vessels were allowed to form, as they approached the apex, a couple of ironclads would take them in hand coolly, one by one, and send them to the bottom, while their guns might as well shoot peas at the ironclads as the shot of former days.

Taking the *Victory* as a fair type of the best war-ships of her day (a day when there was not that painful uncertainty with regard to naval construction and armament existing now, in spite of our vaunted progress), we still know that in the presence of a powerful steam-frigate with heavy guns, or an 11,000-ton ironclad, she would be literally nowhere. She was one of the last specimens, and a very perfect specimen, too, of the *wooden* age. This is the age of iron and steam. One of the largest vessels of her day, she is now excelled by hundreds employed in ordinary commerce. The Royal Navy to-day possesses frigates nearly three times her tonnage, while we have ironclads of five times the same. The monster *Great Eastern*, which has proved a monstrous mistake, is 22,500 tons.

But size is by no means the only consideration in constructing vessels of war, and, indeed, there are good reasons to believe that, in the end, vessels of moderate dimensions will be preferred for most purposes of actual warfare. Of the advantages of steam-power there can, of course, be only one opinion; but as regards iron *versus* oak, there are many points which may be urged in favour of either, with a preponderance in favour of the former. A strong iron ship, strange as it may appear, is not more than half the weight of a wooden vessel of the same size and class. It will, to the unthinking, seem absurd to say that an iron ship is more buoyant than one of oak, but the fact is that the proportion of actual weight in iron and wooden vessels of ordinary construction is about six to twenty. The iron

ship, therefore, stands high out of the water, and to sink it to the same line will require a greater weight on board. From this fact, and the actual *thinness* of its walls, its carrying capacity and stowage are so much the greater. This, which is a great point in vessels destined for commerce, would be equally important in war. But these remarks do not apply to the modern armoured vessel. We have ironclads with plates eighteen inches and upwards in thickness. What is the consequence? Their actual weight, with that of the necessary engines and monster guns employed, is so great that a vast deal of room on board has to be unemployed. Day by day we hear of fresh experiments in gunnery, which keep pace with the increased strength of the vessels. The invulnerable of to-day is the vulnerable of to-morrow, and there are many leading authorities who believe in a return to a smaller and weaker class of vessel—provided, however, with all the appliances for great speed and offensive warfare *at a distance*. Nelson's preference for small, easily-worked frigates over the great ships of the line is well known, and were he alive to-day we can well believe that he would prefer a medium-sized vessel of strong construction, to steam with great speed, and carrying heavy, but, perhaps, not the heaviest guns, to one of those modern unwieldy masses of iron, some of which have had a most disastrous history. The former might, so to speak, act while the latter was making up her mind. Even a Nelson might hesitate to risk a vessel representing six or seven hundred thousand pounds of the nation's money, in anything short of an assured success. We have yet to learn the full power of our ironclad fleet, although a portion of it has recently done such good work at Alexandria. Of its cost there is not a doubt. Some time ago our leading newspaper estimated the expense of construction and maintenance of our existing ironclads at £18,000,000. Mr. Reed states that they have cost the country a million sterling per annum since the first organisation of the fleet. Warfare will soon become a luxury only for the richest nations, and, regarding it in this light, perhaps the very men who are racking their powers of invention to discover terrible engines of war are the greatest peacemakers, after all. They may succeed in making it an impossibility.

"Hereafter, naval powers prepared with the necessary fleet will be able to transport the base of operations to any point on the enemy's coast, turn the strongest positions, and baffle the best-arranged combinations. Thanks to steam, the sea has become a means of communication more certain and more simple than the land; and fleets will be able to act the part of movable bases of operations, rendering them very formidable to powers which, possessing coasts, will not have any navy sufficiently powerful to cause their being respected."* So far as navy to navy is concerned, this is undoubtedly true; yet there is another side to the question. A fort is sometimes able to inflict far greater damage upon its naval assailants than the latter can inflict upon it. A single shot may send a ship to the bottom, whilst the fire from the ship during action is more or less inaccurate. At Sebastopol, a whole French fleet, firing at ranges of 1,600 to 1,800 yards, failed to make any great impression on a fort close to the water's edge; while a wretched earthen battery, mounting only five guns, inflicted terrible losses and injury on four powerful English men-of-war, actually disabling two of them, without itself losing one man or having a gun dismounted; and, again, as has often been calculated, the cost of a single sloop of war with its equipment will construct a fine fort which will last almost for

* Brialmont, "Étude sur la Défense des Etats et sur la Fortification."

ever, while that of two or three line-of-battle ships would raise a considerable fortress. Whilst the monster ironclad with heavy guns would deal out death and destruction when surrounded by an enemy's fleet of lighter iron vessels or wooden ones as strong as was the *Victory*, she might herself run great risk in approaching closely-fortified harbours and coasts, where a single shot from a gun heavy enough to pierce her armour could sink her. At Alexandria the Egyptians had no such guns, while the fortifications were comparatively weak.

The lessons of the Crimean war, as regards the navy, were few, but of the gravest importance, and they have led to results of which we cannot yet determine the end. The war opened by a Russian attack on a Turkish squadron at Sinope, November 20th, 1853.* That determined the fact that a whole fleet might be annihilated in an hour or so by the use of large shells. No more necessity for grappling and close quarters; the iron age was full in view, and wooden walls had outlived their usefulness, and must perish.

But the lesson had to be again impressed, and that upon a large English and French fleet. Yet, in fairness to our navy, it must be remembered that the Russians had given every attention to rendering Sebastopol nearly impregnable on the sea-side, while a distinguished writer,† who was present throughout the siege, assures us that until the preceding spring they had been quite indifferent in regard to the strength of the fortifications on the land-side. And the presence of the allied fleets was the undeniable cause of one Russian fleet being sunk in the harbour of Sebastopol, while another dared not venture out, season after season, from behind stone fortresses in the shallow waters of Cronstadt.‡ A great naval authority thinks that, while England was, at the time, almost totally deficient in the class of vessels essential to attacking the fleets and fortifications of Russia, the fact that the former never dared "to accept the challenge of any British squadron, however small, is one the record of which we certainly may read without shame." But of that period it would be more pleasant to write exultingly than apologetically.

When the Allies had decided to commence the bombardment of Sebastopol, on October 17th, 1854, it was understood that the fleet should co-operate, and that the attack should be made by the line-of-battle ships in a semicircle. They were ready at one p.m. to commence

* The Turks had at Sinope seven frigates, one sloop, two corvettes, and two transports. The Russians were stronger, but this did not determine the battle; their success was won because they were well supplied with large shells and shell-guns, while the Turks had nothing more effective than 24-pounders. Their wooden vessels were speedily on fire, and the Russians won an easy success. Shells were no novelty, yet a great sea-fight had never before been, as it was then, won by their exclusive agency.

† The Hon. S. J. G. Calthorpe, "Letters from Head-quarters."

‡ The seven Russian ships sunk at the entrance of the harbour of Sebastopol were of no small size or value, and they were scuttled in a hurry so great that they had all their guns, ammunition, and stores on board, and their rigging standing. They comprised five line-of-battle ships, two of them eighty, two eighty-four, and one 120 guns, and two frigates of forty guns; a total of 528 guns. Afterwards it became a common report that vessels had been disabled and sunk in the harbour. On the night of the 5th of September, just before the evacuation of the town, two large Russian men-of-war caught fire and burned fiercely, illumining the harbour and town, and causing great excitement, as an omen of coming doom. The night of the memorable 8th, when the Russians gave up all further idea of resistance, and left the town to take care of itself, witnessed the sinking of the remainder of the Black Sea fleet. So far, therefore, the presence of our fleet had a pronounced moral effect, without involving further loss of life.

the bombardment. Lyons brought the *Agamemnon,* followed by half a dozen other vessels, to within 700 yards of Fort Constantine, the others staying at the safer distances of 1,800 to 2,200 yards. The whole fleet opened with a tremendous roar of artillery, to which the Russians replied almost as heavily. Fort Constantine was several times silenced, and greatly damaged; but, on the other hand, the Russians managed to kill forty-seven and wound 234 men in the English fleet, and a slightly smaller number in the French. They had an unpleasant knack of firing red-hot shot in profusion, and of hitting the vessels even at the distance at which they lay. Several were set on fire, and two for a time had to retire from the action. These were practical shots at our wooden walls. This naval attack has been characterised as "even a greater failure than that by land"—meaning, of course, the first attack.

Here we may for a moment be allowed to digress and remind the reader of the important part played by red-hot shot at that greatest of all great sieges—Gibraltar. As each accession to the enemy's force arrived, General Elliott calmly built more furnaces and more grates for heating his most effective means of defence. Just as one of their wooden batteries was on the point of completion, he gave it what was termed at the time a dose of "cayenne pepper;" in other words, with red-hot shot and shells he set it on fire. When the ordnance portable furnaces for heating shot proved insufficient to supply the demands of the artillery, he ordered large bonfires to be kindled, on which the cannon-balls were thrown; and these supplies were termed by the soldiers "hot potatoes" for the enemy. But the great triumph of red-hot shot was on that memorable 13th of September, 1782, when forty-six sail of the line, and a countless fleet of gun and mortar boats attacked the fortress. With all these appliances of warfare, the great confidence of the enemy—or rather, combined enemies—was in their floating batteries, planned by D'Arcon, an eminent French engineer, and which had cost a good half million sterling. They were supposed to be impervious to shells or red-hot shot. After persistently firing at the fleet, Elliott started the admiral's ship and one of the batteries commanded by the Prince of Nassau. This was but the commencement of the end. The unwieldy leviathans could not be shifted from their moorings, and they lay helpless and immovable, and yet dangerous to their neighbours; for they were filled with the instruments of destruction. Early the next morning eight of these vaunted batteries "indicated the efficacy of the red-hot defence. The light produced by the flames was nearly equal to noonday, and greatly exposed the enemy to observation, enabling the artillery to be pointed upon them with the utmost precision. The rock and neighbouring objects are stated to have been highly illuminated by the constant flashes of cannon and the flames of the burning ships, forming a mingled scene of sublimity and terror."* "An indistinct clamour, with lamentable cries and groans, arose from all quarters." †

When 400 pieces of artillery were playing on the rock at the same moment, Elliott returned the compliment with a shower of red-hot balls, bombs, and carcases, that filled the air, with little or no intermission. The Count d'Artois had hastened from Paris to

* Cust, "Annals of the Wars of the Eighteenth Century."
† Drinkwater, "Siege of Gibraltar."

THE SIEGE OF GIBRALTAR.

witness a capitulation. He arrived in time to see the total destruction of the floating batteries and a large part of the combined fleet. Attempting a somewhat feeble joke, he wrote to France:—"*La batterie la plus effective était ma batterie de cuisine.*" Elliott's cooking-apparatus and "roasted balls" beat it all to nothing. Red-hot shot has been entirely superseded in "civilised" warfare by shells. It was usually handled much in the same way that ordinary shot and shell is to-day. Each ball was carried by two men, having between them a strong iron frame, with a ring in the middle to hold it. There were two heavy wads, one dry and the other slightly damped, between the powder and ball. At the siege of Gibraltar, however, matters were managed in a much more rough-and-ready style. The shot was heated at furnaces and wheeled off to the guns in wheelbarrows lined with sand.

The partial failure of the navy to co-operate successfully with the land-forces, so far as bombardment was concerned, during the Crimean war, has had much to do with the adoption of the costly ironclad floating fortresses, armed with enormously powerful guns, of the present day. The earliest form, indeed, was adopted during the above war, but not used to any great extent or advantage. The late Emperor of the French* saw that the coming necessity or necessary evil would be some form of strongly-armoured and protected floating battery that could cope with fortresses ashore, and this was the germ of the ironclad movement. The first batteries of this kind, used successfully at Kinburn, were otherwise unseaworthy and unmanageable, and were little more than heavily-plated and more or less covered barges.

The two earliest European ironclads were *La Gloire* in France and the *Warrior* in England—the latter launched in 1860. Neither of these vessels presented any great departure from the established types of build in large ships of war. The *Warrior* is an undeniably fine, handsome-looking frigate, masted and rigged as usual, but she and her sister-ship, the *Black Prince*, are about the only ironclads to which these remarks apply—every form and variety of construction having been adopted since. As regarded size, she was considerably larger than the largest frigate or ship of the line of our navy, although greatly exceeded by many ironclads subsequently built. She is 380 feet in length, and her displacement of more than 9,100 tons was 3,000 tons greater than that of the largest of the wooden men-of-war she was superseding. The *Warrior* is still among the fastest of the iron-armoured fleet. Considered *as* an ironclad, however, she is a weak example. Her armour, which protects only three-fifths of her sides, is but four and a half inches thick, with eighteen inches of (wood) backing, and five-eighths of an inch of what is technically called "skin-plating," for protection inside. The remote possibility of a red-hot shot or shell falling inside has to be considered. Her bow and stern, rudder-head and steering-gear, would, of course, be the vulnerable points.

From this small beginning—one armoured vessel—our ironclad fleet has grown with

* Some have even gone so far as to consider Louis Napoleon the inventor of iron-plated and armoured vessels. This is absurd. The ancients knew the use of plates of iron or brass for covering ships of war and battering-rams. One of Hiero's greatest galleys was covered that way. That it must come to this sooner or later was the published idea of many, both in this country and in France. The Emperor's sagacity, however, was always fully alive to questions of the kind.

the greatest rapidity, till it now numbers over sixty of all denominations of vessels. The late Emperor of the French gave a great impetus to the movement; and other foreign nations speedily following in his wake, it clearly behoved England to be able to cope with them on their own ground, should occasion demand. Then there was the "scare" of invasion which took some hold of the public mind, and was exaggerated by certain portions of the press, at one period, till it assumed serious proportions. Leading journals complained that by the time the Admiralty would have one or two ironclads in commission, the French would have ten or twelve. Thus urged, the Government of the day must be excused if they made some doubtful experiments and costly failures.

But apart from the lessons of the Crimea, and the activity and rivalry of foreign powers, attention was seriously drawn to the ironclad question by the events of the day. It was easy to guess and theorise concerning this new feature in warfare, but early in 1862 practical proof was afforded of its power. The naval engagement which took place in Hampton Roads, near the outset of the great American civil war, was the first time in which an ironclad ship was brought into collision with wooden vessels, and also the first time in which two distinct varieties of the species were brought into collision with each other.

The Southerners had, when the strife commenced, seized and partially burned the *Merrimac*, a steam-frigate belonging to the United States navy, then lying at the Norfolk Navy-yard. The hulk was regarded as nearly worthless,* until, looking about for ways and means to annoy their opponents, they hit on the idea of armouring her, in the best manner attainable at the moment; and for awhile at least, this condemned wreck, resuscitated, patched up, and covered with iron plates,† became the terror of the enemy. She was provided with an iron prow or ram capable of inflicting a severe blow under water. Her hull, cut down to within three feet of the water-line, was covered by a bomb-proof, sloping-roofed house, which extended over the screw and rudder. This was built of oak and pine, covered with iron; the latter being four and a half inches thick, and the former aggregating twenty inches in thickness. While the hull was generally iron-plated, the bow and stern were covered with steel. There were no masts—nothing seen above but the "smoke-stack" (funnel), pilot-house, and flagstaff. She carried eight powerful guns, most of them eleven-inch. "As she came ploughing through the water," wrote one eyewitness of her movements, "she looked like a huge half-submerged crocodile." The Southerners re-christened her the *Virginia*, but her older name has clung to her. The smaller vessels with her contributed little to the issue of the fight, but those opposed to her were of no inconsiderable size. The *Congress*, *Cumberland*,

* The report of the Chief Engineer and Naval Constructor of the Confederate Service, in regard to the conversion of the *Merrimac* into an armoured vessel, distinctly stated that from the effects of fire she was "useless for any other purpose, without incurring a very heavy expense for rebuilding."

† The official reports state that she was plated, many popular accounts averring that she was only covered with "railroad iron." The information presented here is drawn from the following sources:—"The Rebellion Record," a voluminous work, edited by Frank Moore, of New York, and which contains all the leading official war-documents, both of the Federals and Confederates; the statement of Mr. A. B. Smith, pilot of the *Cumberland*, one of the survivors of the fight; the Baltimore *American*, and the Norfolk *Day Book*, both newspapers published near the scene of action. There is great unanimity in the accounts published on both sides.

Minnesota, and *Roanoake* were frigates carrying an aggregate of over 150 guns and nearly 2,000 men. They, however, were wooden vessels; and although, in two cases in particular, defended with persistent heroism, had no chance against the ironclad, hastily as she had been prepared. There is little doubt that the officers of the two former vessels, in particular, knew something of the nature of the "forlorn hope" in which they were about to engage, when she hove in sight on that memorable 8th of March, 1862. It is said that the sailors, however, derided her till she was close upon them—so close that their laughter and remarks were heard on board. "That Southern Bugaboo," "that old Secesh curiosity," were among the milder titles applied to her.

The engagement was fought in the Hampton Roads, which is virtually an outlet of the James River, Virginia. The latter, like the Thames, has considerable breadth and many shallows near its mouth. The *Merrimac* left Norfolk Navy-yard (which holds to the James River somewhat the position that Sheerness does to the Thames) hurriedly on the morning of the 8th, and steamed steadily towards the enemy's fleet, accompanied by some smaller vessels of war and a few tug-boats.

"Meanwhile, the shapeless iron mass
Came moving o'er the wave,
As gloomy as a passing hearse,
As silent as the grave."

The morning was still and calm as that of a Sabbath-day. That the *Merrimac* was not expected was evidenced by the boats at the booms, and the sailors' clothes still hanging in the rigging of the enemy's vessels. "Did they see the long, dark hull? Had they made it out? Was it ignorance, apathy, or composure that made them so indifferent? or were they provided with torpedoes, which could sink even the *Merrimac* in a minute?" were questions mooted on the Southern side by those watching on board the boats and from the shore.

As soon, however, as she was plainly discerned, the crews of the *Cumberland, Congress,* and other vessels were beat to quarters, and preparations made for the fight. "The engagement," wrote the Confederate Secretary of the Navy, "commenced at half-past three p.m., and at four p.m. Captain Buchanan had sunk the *Cumberland,* captured and burned the *Congress,* disabled and driven the *Minnesota* ashore, and defeated the *St. Lawrence* and *Roanoake,* which sought shelter under the guns of Fortress Monroe. Two of the enemy's small steamers were blown up, and the two transport steamers were captured." This, as will be seen, must, as regards time, be taken *cum grano salis,* but in its main points is correct.

The *Merrimac* commenced the action by discharging a broadside at the *Congress,* one shell from which killed or disabled a number of men at the guns, and then kept on towards the *Cumberland,* which she approached with full steam on, striking her on the port side near the bow, her stem knocking two of the ports into one, and her ram striking the vessel under the water-line. Almost instantaneously a large shell was discharged from her forward gun, which raked the gun-deck of the doomed ship, and killed ten men. Five minutes later the ship began to sink by the head, a large hole having been made

by the point of the ram, through which the water rushed in. As the *Merrimac* rounded and rapidly came up again, she once more raked the *Cumberland*, killing or wounding sixteen more men. Meantime the latter was endeavouring to defend herself, and poured broadside after broadside into the *Merrimac*; but the balls, as one of the survivors tells us, bounced "upon her mailed sides like india-rubber, apparently making not the least impression except to cut off her flagstaff, and thus bring down the Confederate colours. None of her crew ventured at that time on her outside to replace them, and she fought

THE ORIGINAL "MERRIMAC."

thenceforward with only her pennant flying."* Shortly after this, the *Merrimac* again attacked the unfortunate ship, advancing with her greatest speed, her ram making another hole below the water-line. The *Cumberland* began to fill rapidly. The scene on board is hardly to be described in words. It was one of horrible desperation and fruitless heroism. The decks were slippery with human gore; shreds of human flesh, and portions of the body, arms, legs, and headless trunks were scattered everywhere. Below, the cockpit was filled with wounded, whom it would be impossible to succour, for the ship was sinking fast. Meantime the men stuck to their posts, powder was still served out, and the firing kept up steadily, several of the crew lingering so long in the after shell-room,

* The pilot of the *Cumberland*.

in their eagerness to pass up shell, that they were drowned there. The water had now reached the main gun-deck, and it became evident that the contest was nearly over. Still the men lingered, anxious for one last shot, when their guns were nearly under water.

"Shall we give them a broadside, my boys, as she goes?
Shall we send yet another to tell,
In iron-tongued words, to Columbia's foes,
How bravely her sons say 'Farewell?'"

The word was passed for each man to save himself. Even then, one man, an active little fellow, named Matthew Tenney, whose courage had been conspicuous during the action, determined to fire once more, the next gun to his own being then under water, the vessel going down by the head. He succeeded, but at the cost of his life, for immediately afterwards, attempting to scramble out of the port-hole, the water suddenly rushed in with such force that he was washed back and drowned. Scores of poor fellows were unable to reach the upper deck, and were carried down with the vessel. The *Cumberland* sank in water up to the cross-trees, and went down *with her flag still flying from the peak.** The whole number lost was not less than 120 souls. Her top-masts, with the pennant flying far above the water, long marked the locality of one of the bravest and most desperate defences ever made

"By men who knew that all else was wrong
But to die when a sailor ought."

The *Cumberland* being utterly demolished, the *Merrimac* turned her attention to the *Congress*. The Southerners showed their chivalric instincts at this juncture by not firing on the boats, or on a small steamer, which were engaged in picking up the survivors of the *Cumberland's* crew. The officers of the *Congress*, seeing the fate of the *Cumberland*, determined that the *Merrimac* should not, at least, sink their vessel. They therefore got all sail on the ship, and attempted to run ashore. The *Merrimac* was soon close on them, and delivered a broadside, which was terribly destructive, a shell killing, at one of the guns, every man engaged except one. Backing, and then returning several times, she delivered broadside after broadside at less than 100 yards' distance. The *Congress* replied manfully and obstinately, but with little effect. One shot is supposed to have entered one of the ironclad's port-holes, and dismounted a gun, as there was no further firing from that port, and a few splinters of iron were struck off her sloping mailed roof, but this was all. The guns of the *Merrimac* appeared to have been specially trained on the after-magazine of the *Congress*, and shot after shot entered that part of the ship. Thus, slowly drifting down with the current, and again steaming up, the *Merrimac* continued for an hour to fire into her opponent. Several times the *Congress* was on fire, but the flames were kept under. At length the ship was on fire in so many places, and the flames gathering with such force, that it was hopeless and suicidal to keep up the defence any longer.

* "Finally, after about three-fourths of an hour of the most severe fighting, our vessel sank, the Stars and Stripes still waving. That flag was finally submerged; but after the hull grounded on the sands, fifty-four feet below the surface of the water, our pennant was still flying from the top-mast above the waves." (The Pilot of the *Cumberland's* Narrative.)

The national flag was sadly and sorrowfully hauled down, and a white flag hoisted at the peak. The *Merrimac* did not for a few minutes see this token of surrender, and continued to fire. At last, however, it was discerned through the clouds of smoke, and the broadsides ceased. A tug that had followed the *Merrimac* out of Norfolk then came alongside the *Congress*, and ordered the officers on board. This they refused, hoping that, from the nearness of the shore, they would be able to escape. Some of the men, to the number, it is believed, of about forty, thought the tug was one of the Northern (Federal) vessels, and rushed on board, and were, of course, soon carried off as prisoners. By the time that all the able men were off ashore and elsewhere, it was seven o'clock in the evening, and the *Congress* was a bright sheet of flame fore and aft, her guns, which were loaded and trained, going off as the fire reached them. A shell from one struck a sloop at some distance, and blew her up. At midnight the fire reached her magazines, containing five tons of gunpowder, and, with a terrific explosion, her charred remains blew up. Thus had the *Merrimac* sunk one and burned a second of the largest of the vessels of the enemy.

Having settled the fate of these two ships, the *Merrimac* had, about 5 o'clock in the afternoon, started to tackle the *Minnesota*. Here, as was afterwards proved, the commander of the former had the intention of capturing the latter as a prize, and had no wish to destroy her. He, therefore, stood off about a mile distant, and with the *Yorktown* and *Jamestown*, threw shot and shell at the frigate, doing it considerable damage, and killing six men. One shell entered near her waist, passed through the chief engineer's room, knocking two rooms into one, and wounded several men; a shot passed through the main-mast. At nightfall the *Merrimac*, satisfied with her afternoon's work of death and destruction, steamed in under Sewall's Point. "The day," said the Baltimore *American*, "thus closed most dismally for our side, and with the most gloomy apprehensions of what would occur the next day. The *Minnesota* was at the mercy of the *Merrimac*, and there appeared no reason why the iron monster might not clear the Roads of our fleet, destroy all the stores and warehouses on the beach, drive our troops into the fortress, and command Hampton Roads against any number of wooden vessels the Government might send there. . Saturday was a terribly dismal night at Fortress Monroe."

But about nine o'clock that evening Ericsson's battery, the *Monitor*,* arrived in Hampton Roads, and hope revived in the breasts of the despondent Northerners. She was not a very formidable-looking craft, for, lying low on the water, with a plain structure amidships, a small pilot-house forward, and a diminutive funnel aft, she might have been taken for a raft. It was only on board that her real strength might be discovered. She carried armour about five inches thick over a large part of her, and had practically two hulls, the lower of which had sides inclining at an angle of 51° from the vertical line. It was considered that no shot could hurt this lower hull, on account of the angle at which it must strike it. The revolving turret, an iron cylinder, nine feet high, and twenty feet in diameter, eight or nine inches thick everywhere, and about the portholes eleven inches, was moved round by steam-power. When the two heavy Dahlgren guns were

* The original *Monitor*, from which that class of vessel took its name.

run in for loading, a kind of pendulum port fell over the holes in the turret. The propeller, rudder, and even anchor, were all hidden.

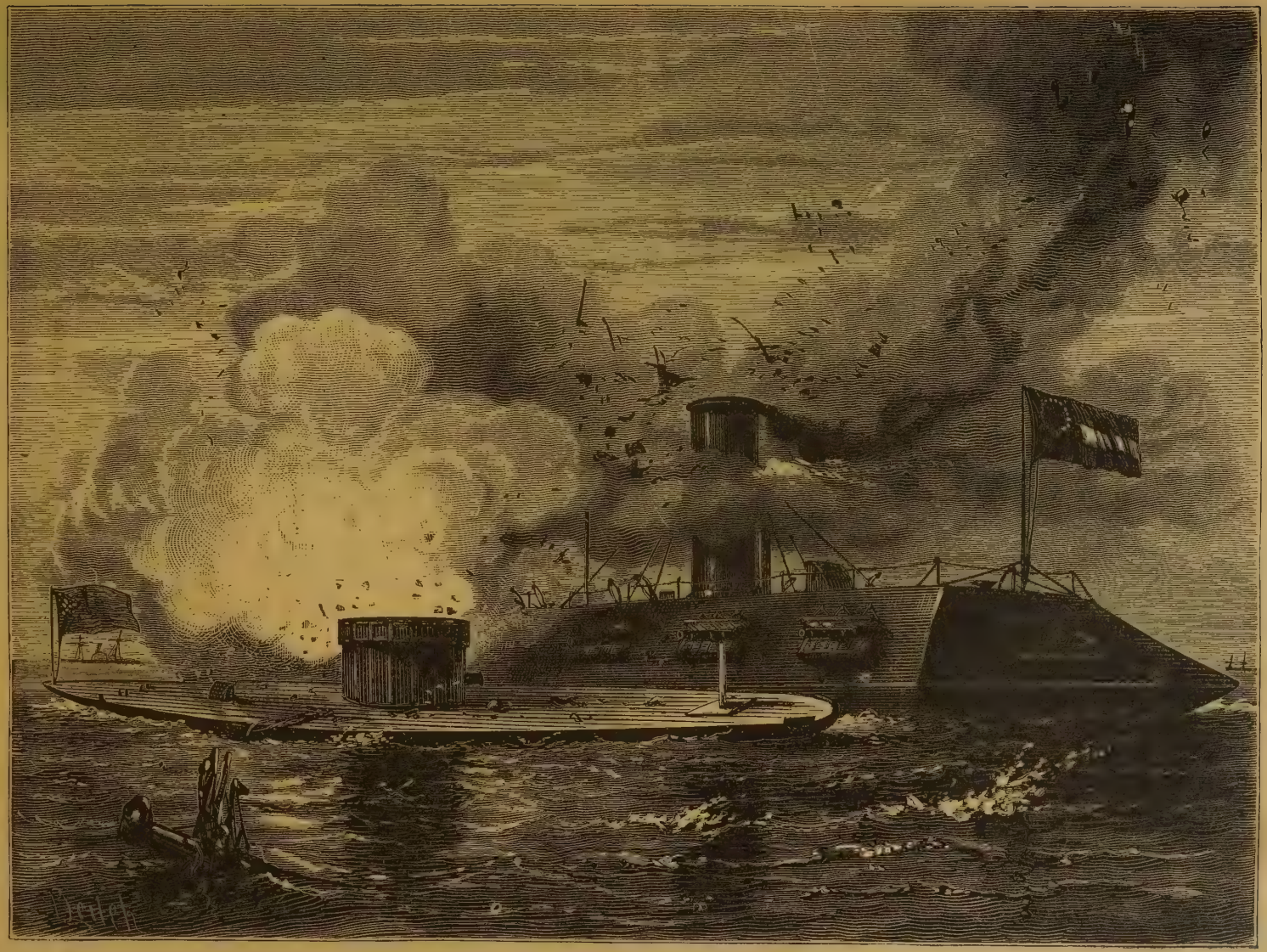
This was a war of surprises and sudden changes. It is doubtful if the Southerners knew what to make of the strange-looking battery which steamed towards them next morning, or whether they despised it. The *Merrimac* and the *Monitor* kept on approaching each other, the former waiting until she would choose her distance, and the latter apparently not knowing what to make of her queer-looking antagonist. The first shot from the *Monitor* was fired when about one hundred yards distant from the *Merrimac*, and this distance was subsequently reduced to fifty yards; and at no time during the furious cannonading that ensued were the vessels more than two hundred yards apart. The scene was in plain view from Fortress Monroe, and in the main facts all the spectators agree. At first the fight was very furious, and the guns of the *Monitor* were fired rapidly. The latter carried only two guns, to its opponent's eight, and received two or three shots for every one she gave. Finding that she was much more formidable than she looked, the *Merrimac* attempted to run her down; but her superior speed and quicker handling enabled her to dodge and turn rapidly. "Once the *Merrimac* struck her near midships, but only to prove that the battery could not be run down nor shot down. She spun round like a top; and as she got her bearing again, sent one of her formidable missiles into her huge opponent.

"The officers of the *Monitor* at this time had gained such confidence in the impregnability of their battery that they no longer fired at random nor hastily. The fight then assumed its most interesting aspect. The *Monitor* went round the *Merrimac* repeatedly, probing her sides, seeking for weak points, and reserving her fire with coolness, until she had the right spot and the right range, and made her experiments accordingly. In this way the *Merrimac* received three shots. . . . . Neither of these three shots rebounded at all, but appeared to cut their way clear through iron and wood into the ship."* Soon after receiving the third shot, the *Merrimac* made off at full speed, and the contest was not renewed. Thus ended this particular episode of the American war.

Lieutenant Worden was in the pilot-house of the *Monitor* when the *Merrimac* directed a whole broadside at her, and was, besides being thrown down and stunned by the concussion, temporarily blinded by the minute fragments of shells and powder driven through the eye-holes—only an inch each in diameter—made through the iron to enable them to keep a look-out. He was carried away, but, on recovering consciousness, his first thoughts reverted to the action. "Have I saved the *Minnesota?*" said he, eagerly. "Yes; and whipped the *Merrimac!*" was the answer. "Then," replied he, "I don't care what becomes of me." The concussion in the turret is described as something terrible; and several of the men, though not otherwise hurt, were rendered insensible for the time. Each side claimed that they had seriously damaged the other, but there seems to have been no foundation for these assertions in facts.

But although this, the original *Monitor*, was efficient, if not omnipotent, in the calm

* Account of eyewitnesses furnished to the Baltimore *American*.



ENGAGEMENT BETWEEN THE "MERRIMAC" AND "MONITOR."

waters at the mouth of the James River, she was, as might be expected with her flat, barge-like bottom, a bad sea-boat, and was afterwards lost. Her ports had to be closed and caulked, being only five feet above the water, and she was therefore unable to work her guns at sea. Her constructor had neglected Sir Walter Raleigh's advice to Prince Henry touching the model of a ship, "that her ports be so laid, as that she may carry out her guns all weathers." She plunged heavily—completely submerging her pilot-house at times, the sea washing over and into her turret. The heavy shocks and jars of the armour, as it came down upon the waves, made her leaky, and she went to the bottom in spite of pumps capable of throwing 2,000 gallons a minute, which were in good order and working incessantly.

Since the conclusion of the American war, the ironclad question has assumed serious aspects, and many facts could be cited to show that they have not by any means always confirmed the first impressions of their strength and invulnerability. An example, which occurred in 1877, will be fresh in the memories of our readers. It is that of the engagement off Peru between the Peruvian ironclad turret-ship *Huascar* and the British unarmoured men-of-war *Shah* and *Amethyst*. With the political aspect of the affair we have nothing, of course, to do, in our present work. It was really a question between the guns quite as much as between the vessels. The *Huascar* is only a moderately-strong armoured vessel, her plates being the same thickness as those of the earliest English ironclad, the *Warrior*, and her armament is two 300-pounders in her turret, and three shell-guns. On the other hand, the *Shah*, the principal one of the two British vessels, is only a large iron vessel sheathed in wood, and not armoured at all; but she carries, besides smaller guns, a formidable armament in the shape of two 12-ton and sixteen 6½-ton guns. An eyewitness of the engagement states* that, after three hours' firing, at a distance of from 400 to 3,000 yards, the only damage inflicted by the opposing vessels was a hole in the *Huascar's* side, made by a shell, the bursting of which killed one man. "One 9-in. shot (from a 12-ton gun) also penetrated three inches into the turret without effecting any material damage. There were nearly 100 dents of various depths in the plates, but none of sufficient depth to materially injure them. The upper works—boats, and everything destructible by shell—were, of course, destroyed. Her colours were also shot down." According to theory, the *Shah's* two larger guns should have penetrated the *Huascar's* sides when fired at upwards of 3,000 yards' distance. The facts are very different, doubtless because the shots struck the armour obliquely, at any angles but right ones. The *Huascar* was admirably handled and manœuvred, but her gunnery was so indifferent that none of the shots even struck the *Shah*, except to cut away a couple of ropes, and the latter kept up so hot a fire of shells that the crew of the former were completely demoralised, and the officers had to train and fire the guns. She eventually escaped to Iquique, under cover of a pitchy-dark night. The same correspondent admits, however, that the *Shah*, although a magnificent vessel, was not sufficient for the South American station. Peru then had three ironclads, Chili two, and Brazil and the River Plate Republics several. Peru, as our readers will remember, lost her ironclads to Chili in the recent war.

* *Vide* the *Times*, 17th July, 1877.

There has been for a long period an increasing feeling of anxiety on the part of the public to discover the real fighting value of the enormously expensive ironclads which have been gradually replacing our wooden walls. To say that they have been thoroughly tested by the events of July 11th, 1882, at Alexandria, would be absurd, but, nevertheless, at that ancient port, which was battered into a mass of ruins, several important points were satisfactorily proved. The first amounts to a truism, and is this, that fortresses must be constructed as solidly as the vessels that attack them, and must be armed with guns of even greater power, if they would fight on an equality. Indeed, were these conditions observed, the ironclads would have the worst of it, for while a well-directed shot from an 80-ton gun might considerably damage the fort and yet hardly injure its fighting powers, it would, in all probability, sink a vessel. Another point is the splendid practice made by our gunners, showing also the reliability of their engines of destruction. The great ironclads—the *Alexandra, Sultan, Superb, Inflexible, Téméraire, Penelope, Invincible* (the flag-ship), and *Monarch*—were ranged at distances from the Alexandria forts of 1,000 to 3,700 yards, and yet in the short space of ten hours every battery was demolished or silenced, and several magazines blown up, with enormous loss of life on the Egyptian side and scarcely any on ours.

The story of the bombardment, shorn of the political events which preceded it and rendered it necessary and the military action which has succeeded it, is brief enough, thanks to the prompt and decisive action of Admiral Seymour. The admiral sent, early on Monday, July 10th, a letter to the Governor of Alexandria, demanding the surrender of the forts at the mouth of the harbour, it having been discovered that their construction was still proceeding in spite of the assurances of the authorities to the contrary. Meantime the Europeans were rapidly leaving the city, the conflict being imminent, and the foreign men-of-war and merchantmen moved out from the harbour. The French sailors, hoping to the last that the orders from their government would enable them to participate in the bombardment, were so chagrined at finding they must remain inactive that a mutiny was seriously expected in their fleet. Admiral Seymour, failing to obtain any satisfactory assurance, opened fire on Tuesday morning, at seven o'clock. At 5.30 p.m. every fort was silenced. During the early part of the day the wind and sun were in the enemy's favour, and the dense smoke hid the forts and shore from view. A brave young middy, Mr. Hardy, was despatched to the main-top, from whence he was able to signal the results of our firing and note the successful hits. At one p.m. volunteers were called for to go ashore and spike the guns in Fort Meks, a service which would probably prove dangerous. But there were plenty of volunteers, of whom twelve, under the command of Lieutenant Bradford, were selected for the work, two other officers accompanying them. To effect a landing they had to swim through the surf, but in spite of the smallness of their little band the natives made no opposition. The Egyptian cannons were burst with charges of gun-cotton. The brave little gunboat *Condor* succeeded, with her two small 64-pounders and one 7-inch Woolwich rifled gun, in silencing three very heavy guns of the Marabout Fort, a single shot from either of which would have sunk her. The admiral acknowledged her services by signalling, "Well done, *Condor!*" and the nation says, "Well done, Seymour!"

CHAPTER II.

Men of Peace.

Naval Life in Peace Times—A Grand Exploring Voyage—The Cruise of the *Challenger*—Its Work—Deep-sea Soundings—Five Miles Down—Apparatus Employed—Ocean Treasures—A Gigantic Sea-monster—Tristan d'Acunha—A Discovery Interesting to the Discovered—The Two Crusoes—The Inaccessible Island—Solitary Life—The Sea-cart—Swimming Pigs—Rescued at Last—The Real Crusoe Island to Let—Down South—The Land of Desolation—Kerguelen—The Sealers' Dreary Life—In the Antarctic—Among the Icebergs.

No form of life presents greater contrasts than that of the sailor. Storm and calm alternate; to-day in the thick of the fight—battling man or the elements—to-morrow we find him tranquilly pursuing some peaceful scheme of discovery or exploration, or calmly cruising from one station to another, protecting by moral influence alone the interests of his country. His deeds may be none the less heroic because his conquests are peaceful, and because Neptune rather than Mars is challenged to cede his treasures. Anson, Cook, and Vancouver, Parry, Franklin, M'Clintock, and M'Clure, among a host of others, stand worthily by the side of our fighting sailors, because made of the same stuff. Let us also, then, for a time, leave behind the smoke and din, the glories and horrors of war, and cool our fevered imaginations by descending, in spirit at least, to the depths of the great sea. The records of the famous voyage of the *Challenger** will afford a capital opportunity of contrasting the deeds of the men of peace with those of men of war.

We may commence by saying that no such voyage has in truth ever been undertaken before.† Nearly 70,000 miles of the earth's watery surface were traversed, and the Atlantic and Pacific crossed and recrossed several times. It was a veritable *voyage en zigzag*. Apart from ordinary soundings innumerable, 374 deep-sea soundings, when the progress of the vessel had to be stopped, and which occupied an hour or two apiece, were made, and at least two-thirds as many successful dredgings and trawlings. The greatest depth of ocean reached was 4,575 fathoms (27,450 feet), or *over five miles*. This was in the Pacific, about 1,400 miles S.E. of Japan. We all know that this ocean derives its name from its generally calmer weather and less tempestuous seas; and the researches of the officers of the *Challenger*, and of the United States vessel *Tuscarora*, show that the bottom slopes to its greatest depths very evenly and gradually, little broken by submarine mountain ranges, except off volcanic islands and coasts like those of the Hawaiian (Sandwich) Islands. Off the latter there are mountains in the sea ranging to as high as 12,000 feet. The general evenness of the bottom helps to account for the long, sweeping waves of the Pacific, so distinguishable from the short,

* The brief narrative presented here is derived principally from the lively and interesting series of letters from the pen of Lord George Campbell; from "The Cruise of H.M.S. *Challenger*," by W. J. J. Spry, R.N., one of the engineers of the vessel; the *Nautical* and other magazines. The scientific reader may consult with advantage the published narratives of Sir George S. Nares and Sir Charles Wyville Thomson.

† The Austrian frigate *Novara* made, in 1857–8–9, a voyage round "and about" the world of 51,686 miles. As it was a sailing vessel, no reliable results could be expected from their deep-sea soundings, and, in fact, on the only two occasions when they attempted anything very deep, their lines broke.

cut-up, and "choppy" waves of the Atlantic. In the Atlantic, on the voyage of the *Challenger* from Teneriffe to St. Thomas, a pretty level bottom off the African coast gradually deepened till it reached 3,125 fathoms (over three and a half miles), at about one-third of the way across to the West Indies. If the Alps, Mont Blanc and all, were submerged at this spot, there would still be more than half a mile of water above them! Five hundred miles further west there is a comparatively shallow part—two miles or so deep—which afterwards deepens to three miles, and continues at the same depth nearly as far as the West Indies.

A few words as to the work laid out for the *Challenger*, and how she did it. She is a 2,000-ton corvette, of moderate steam-power, and was put into commission, with a reduced complement of officers and men, Captain (now Sir) George S. Nares, later the commander of the Arctic expedition, having complete charge and control. Her work was to include soundings, thermometric and magnetic observations, dredgings and chemical examinations of sea-water, the surveying of unsurveyed harbours and coasts, and the re-surveying, where practicable, of partially surveyed coasts. The (civil) scientific corps, under the charge of Professor Wyville Thomson, comprised three naturalists, a chemist and physicist, and a photographer. The naturalists had their special rooms, the chemist his laboratory, the photographer his "dark-room," and the surveyors their chart-room, to make room for which all the guns were removed except two. On the upper deck was another analysing-room, "devoted to mud, fish, birds, and vertebrates generally;" a donkey-engine for hauling in the sounding, dredging, and other lines, and a broad bridge amidships, from which the officer for the day gave the necessary orders for the performance of the many duties connected with their scientific labours. Thousands of fathoms of rope of all sizes, for dredging and sounding; tons of sounding-weights, from half to a whole hundredweight apiece; dozens of thermometers for deep-sea temperatures, and gallons of methylated spirits for preserving the specimens obtained, were carried on board.

Steam-power is always very essential to deep-sea sounding. No trustworthy results can be obtained from a ship under sail; a perpendicular sounding is the one thing required, and, of course, with steam the vessel can be kept head to the wind, regulating her speed so that she remains nearly stationary. The sounding apparatus used needs some little description. A block was fixed to the main-yard, from which depended the "accumulator," consisting of strong india-rubber bands, each three-fourths of an inch in diameter and three feet long, which ran through circular discs of wood at either end. These are capable of stretching seventeen feet, and their object is to prevent sudden strain on the lead-line from the inevitable jerks and motion of the vessel. The sounding-rod used for great depths is, with its weights,* so arranged that on touching bottom a spring releases a wire sling, and the weights slip off and are left there. These rods were only employed when the depths were considered to be over 1,500 fathoms; for less depths a long, conical lead weight was used, with a "butterfly valve," or trap, at its basis for securing specimens from the ocean bed. There are several kinds of "slip" water-bottles for securing samples of sea-water (and marine objects of small size floating in it) at great depths. One of the most ingenious is a brass tube, two and a half feet in length, fitted with easily-working stop-cocks at each end, connected by means of a rod, on

* The "sinkers" were usually allowed at the rate of 112lb. for each 1,000 fathoms.

which is a movable float. As the bottle descends the stop-cocks must remain open, but as it is hauled up again the flat float receives the opposing pressure of the water above it, and, acting by means of the connecting-rod, shuts both cocks simultaneously, thus inclosing a specimen of the water at that particular depth. Self-registering thermometers were employed, sometimes attached at intervals of 100 fathoms to the sounding-line, so as to test the temperatures at various depths. For dredging, bags or nets from three to five feet in depth, and nine to fifteen inches in width, attached to iron frames, were employed, whilst at the bottom of the bags a number of "swabs," similar to those used in cleaning decks, were attached, so as to sweep along the bottom, and bring up small specimens of animal life—coral, sponges, &c. These swabs were, however, always termed "hempen tangles"—so much does science dignify every object it touches! The dredges were afterwards set aside for the ordinary beam-trawls used in shallow water around our own coasts. Their open meshes allowed the mud and sand to filter through easily, and their adoption was a source of satisfaction to some of the officers who looked with horror on the state of their usually immaculate decks, when the dredges were emptied of their contents.

Not so very long ago, our knowledge of anything beneath the ocean's surface was extremely indefinite; for even of the coasts and shallows we knew little, marine zoology and botany being the last, and not the earliest, branches of natural history investigated by men of science. It was asserted that the specific gravity of water at great depths would cause the heaviest weights to remain suspended in mid-sea, and that animal existence was impossible at the bottom. When, some sixteen years ago, a few star-fish were brought up by a line from a depth of 1,200 fathoms, it was seriously considered that they had attached themselves at some midway point, and not at the bottom. In 1868–9–70, the Royal Society borrowed from the Admiralty two of Her Majesty's vessels, the *Lightning* and *Porcupine;* and in one of the latter's trips, considerably to the south and west of Ireland, she sounded to a depth of 2,400 fathoms,* and was very successful in many dredging operations. As a result, it was then suggested that a vessel should be specially fitted out for a more important ocean voyage round the world, to occupy three or more years, and the cruise of the *Challenger* was then determined upon.

The story of that cruise is utterly unsensational; it is one simply of calm and unremitting scientific work, almost unaccompanied by peril. To some the treasures acquired will seem valueless. Among the earliest gains, obtained near Cape St. Vincent, with a common trawl, was a beautiful specimen of the Euplectella, "glass-rope sponge," or "Venus's flower-basket," alive. This object of beauty and interest, sometimes seen in working naturalists' and conchologists' windows in London, had always previously been obtained from the seas

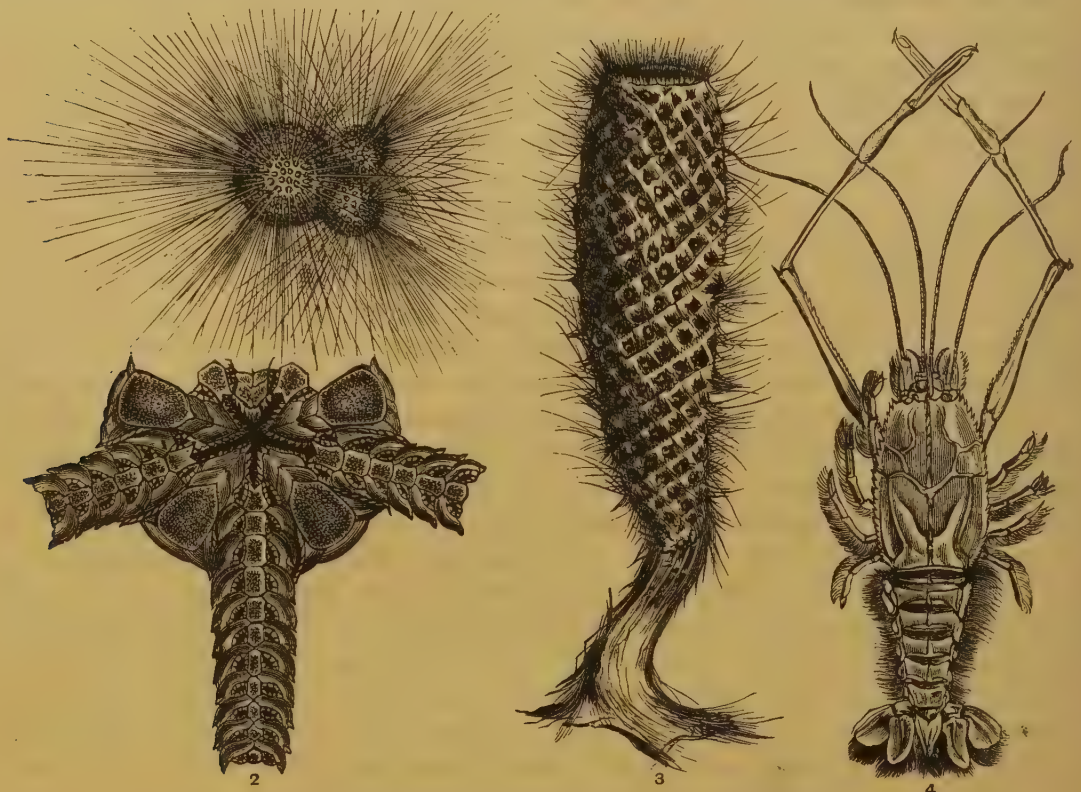
* Most of the recorded examples of earlier deep-sea soundings have little scientific value. Unless the sounding-line sinks perpendicularly, and the vessel remains stationary—to do which she may have to steam against wind and tide or current—it must be evident that the data obtained are not reliable. From a sailing vessel it is impossible to obtain absolutely reliable soundings except in, say, a tideless lake, unruffled by wind. It is very evident that if the sounding line drags after or in any direction from the vessel, the depth indicated may be greatly in excess of the true depth; indeed, it may be double or treble in some cases. There is one recorded example of a depth of 7,706 fathoms having been obtained, which too evidently comes under this category. After several years' soundings on the part of the *Challenger* and the United States vessel *Tuscarora*, it has become probable that no part of the ocean has a depth much greater than 4,500 fathoms. But even this is upwards of five miles!

of the Philippine Islands and Japan, to which it was thought to be confined, and its discovery so much nearer home was hailed with delight. It has a most graceful form, consisting of a slightly curved conical tube, eight or ten inches in height, contracted beneath to a blunt point. The walls are of light tracery, resembling opaque spun glass, covered with a lace-work of delicate pattern. The lower end is surrounded by an upturned fringe of lustrous fibres, and the wider end is closed by a lid of open network. These beautiful objects of nature make most charming ornaments for a drawing-room, but have to be kept under a glass case, as they are somewhat frail. In their native element they lie buried in the mud. They were afterwards found to be "the most characteristic inhabitants of the great depths all over the world." Early in the voyage, no lack of living things were brought up—strange-looking fish, with their eyes blown nearly out of their heads by the expansion of the air in their air-bladders, whilst entangled among the meshes were many star-fish and delicate zoophytes, shining with a vivid phosphorescent light. A rare specimen of the clustered sea-polyp, twelve gigantic polyps, each with eight long fringed arms, terminating in a close cluster on a stalk or stem three feet high, was obtained. "Two specimens of this fine species were brought from the coast of Greenland early in the last century; somehow these were lost, and for a century the animal was never seen." Two were brought home by one of the Swedish Arctic expeditions, and these are the only specimens ever obtained. One of the lions of the expedition was not "a rare sea-fowl," but a transparent lobster, while a new crustacean, perfectly blind, which feels its way with most beautifully delicate claws, was one of the greatest curiosities obtained. Of these wonders, and of some geological points determined, more anon. But they did not even sight the sea-serpent, much less attempt to catch it. Jules Verne's twenty miles of inexhaustible pearl-meadows were evidently missed, nor did they even catch a glimpse of his gigantic oyster, with the pearl as big as a cocoa-nut, and worth 10,000,000 francs. They could not, with Captain Nemo, dive to the bottom and land amid submarine forests, where tigers and cobras have their counterparts in enormous sharks and vicious cephalopods. Victor Hugo's "devil-fish" did not attack a single sailor, nor did, indeed, any formidable cuttle-fish take even a passing peep at the *Challenger*, much less attempt to stop its progress. Does the reader remember the story recited both by Figuier and Moquin Tandon,* concerning one of these gigantic sea-monsters, which should have a strong basis of truth in it, as it was laid before the French Académie des Sciences by a lieutenant of their navy and a French consul?

The steam-corvette *Alecton*, when between Teneriffe and Madeira, fell in with a gigantic cuttle-fish, fifty feet long in the body, without counting its eight formidable arms covered with suckers. The head was of enormous size, out of all proportion to the body, and had eyes as large as plates. The other extremity terminated in two fleshy lobes or fins of great size. The estimated weight of the whole creature was 4,000 lbs., and the flesh was soft, glutinous, and of a reddish-brick colour. "The commandant, wishing, in the interests of science, to secure the monster, actually engaged it in battle. Numerous shots were aimed at it, but the balls traversed its flaccid and glutinous mass without causing it any vital injury. But after one of these attacks, the waves were

* In their popular works on the sea, "The Ocean World," and "The World of the Sea."

observed to be covered with foam and blood, and—singular thing—a strong odour of musk was inhaled by the spectators. . . . The musket-shots not having produced the desired results, harpoons were employed, but they took no hold on the soft, impalpable flesh of the marine monster. When it escaped from the harpoon, it dived under the ship and came up again at the other side. They succeeded, at last, in getting the harpoon to bite, and in passing a bowling-hitch round the posterior part of the animal. But when they attempted to hoist it out of the water, the rope penetrated deeply into the



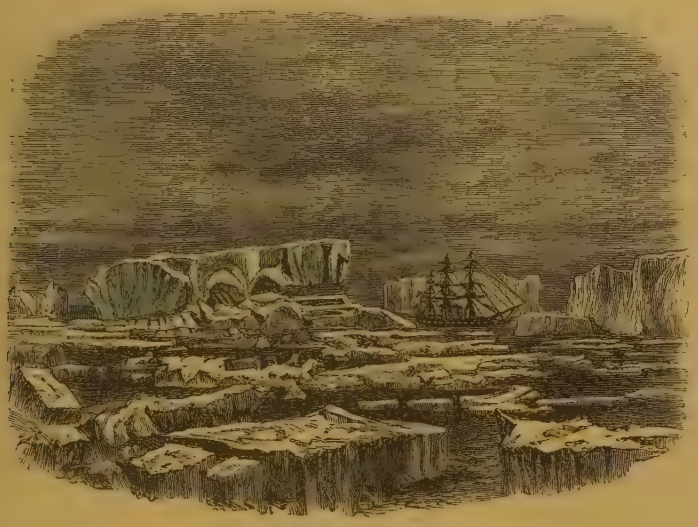
OBJECTS OF INTEREST BROUGHT HOME BY THE "CHALLENGER."

Fig 1.—Shell of *Globigerina* (highly magnified). Fig. 2.—*Ophioglypha bullata* (six times the size in nature). Fig. 3.—*Euplectella Suberea* (popularly "Venus's Flower-basket"). Fig. 1.—*Deidamia leptodactyla* (a Blind Lobster).
(From "The Voyage of the Challenger," by permission of Messrs. Macmillan & Co.)

flesh, and separated it into two parts, the head, with the arms and tentacles, dropping into the sea and making off, while the fins and posterior parts were brought on board; they weighed about forty pounds. The crew were eager to pursue, and would have launched a boat, but the commander refused, fearing that the animal might capsize it. The object was not, in his opinion, one in which he could risk the lives of his crew." M. Moquin Tandon, commenting on M. Berthelot's recital, considers "that this colossal mollusc was sick and exhausted at the time by some recent struggle with some other monster of the deep, which would account for its having quitted its native rocks in the depths of the ocean. Otherwise it would have been more active in its movements, or it would have

obscured the waves with the inky liquid which all the cephalopods have at command. Judging from its size, it would carry at least a barrel of this black liquid."

The *Challenger* afterwards visited Juan Fernandez, the real Robinson Crusoe island where Alexander Selkirk passed his enforced residence of four years. Thanks to Defoe, he lived to find himself so famous, that he could hardly have grudged the time spent in his solitary sojourn with his dumb companions and man Friday. Alas! the romance which enveloped Juan Fernandez has somewhat dimmed. For a brief time it was a Chilian penal colony, and after sundry vicissitudes, was a few years ago leased to a merchant, who kept cattle to sell to whalers and passing ships, and also went seal-hunting on a neighbouring islet. He was "monarch of all he surveyed"—lord of an island over a dozen miles long and five or six



"THE CHALLENGER" IN ANTARCTIC ICE.

broad, with cattle, and herds of wild goats, and capital fishing all round—all for two hundred a year! Fancy this, ye sportsmen, who pay as much or more for the privileges of a barren moor! Yet the merchant was not satisfied with his venture, and, at the time of the *Challenger's* visit, was on the point of abandoning it: by this time it is probably to let. Excepting the cattle dotted about the foot of the hills and a civilised house or two, the appearance of the island must be precisely the same now as when the piratical buccaneers of olden time made it their rendezvous and haunt wherefrom to dash out and harry the Spaniards; the same to-day as when Alexander Selkirk lived in it as its involuntary monarch; the same to-day as when Commodore Anson arrived with his scurvy-stricken "crazy ship, a great scarcity of water, and a crew so universally diseased that there were not above ten foremast-men in a watch capable of doing duty," and recruited them with fresh meat, vegetables, and wild fruits.

"The scenery," writes Lord George Campbell, "is grand: gloomy and wild enough on the dull, stormy day on which we arrived, clouds driving past and enveloping the highest ridge of the mountain, a dark-coloured sea pelting against the steep cliffs and shores, and

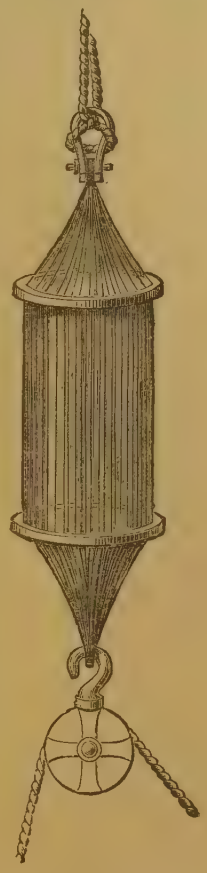
clouds of sea-birds swaying in great flocks to and fro over the water; but cheerful and beautiful on the bright sunny morning which followed—so beautiful that I thought, 'This beats Tahiti!'" The anchorage of the *Challenger* was in Cumberland Bay, a deep-water inlet from which rises a semi-circle of high land, with two bold headlands, "sweeping brokenly up thence to the highest ridge—a square-shaped, craggy, precipitous mass of rock, with trees clinging to its sides to near the summit. The spurs of these hills are covered with coarse grass or moss. . . . . Down the beds of the small ravines run burns, overgrown by dock-leaves of enormous size, and the banks are clothed with a rich vegetation of dark-leaved myrtle, bignonia, and winter-bark, tree-shrubs, with tall grass, ferns, and flowering plants. And as you lie there, humming-birds come darting and thrumming within reach of your stick, flitting from flower to flower, which dot blue and white the foliage of bignonias and myrtles. And on the steep grassy slopes above the sea-cliffs herds of wild goats are seen quietly browsing—quietly, that is, till they scent you, when they are off—as wild as chamois." This is indeed a description of a rugged paradise!

Near the ship they found splendid, but laborious, cod-fishing; laborious on account of sharks playing with the bait, and treating the stoutest lines as though made of single gut; also on account of the forty-fathom depth these cod-fish lived in. Cray-fish and conger-eels were hauled up in lobster-pots by dozens, while round the ship's sides flashed shoals of cavalli, fish that are caught by a hook with a piece of worsted tied roughly on, swished over the surface, giving splendid play with a rod. "And on shore, too, there was something to be seen and done. There was Selkirk's 'look-out' to clamber up the hill-side to—the spot where tradition says he watched day after day for a passing sail, and from whence he could look down on both sides of his island home, over the wooded slopes, down to the cliff-fringed shore, on to the deserted ocean's expanse."

The *Challenger*, in its cruise of over three years, naturally visited many oft-described ports and settlements with which we shall have nought to do. After a visit to Kerguelen's Land—"the Land of Desolation," as Captain Cook called it—in the Southern Indian Ocean, for the purpose of selecting a spot for the erection of an observatory, from whence the transit of Venus should be later observed, they proceeded to Heard Island, the position of which required determining with more accuracy. They anchored, in the evening, in a bay of this most gloomy and utterly desolate place, where they found half-a-dozen wretched sealers living in two miserable huts near the beach, which were sunk into the ground for warmth and protection against the fierce winds. Their work is to kill and boil down sea-elephants. One of the men had been there for two years, and was going to stay another. They are left on the island every year by the schooners, which go sealing or whaling elsewhere. Some forty men were on the island, unable to communicate with each other by land, as the interior is entirely covered with glacier, like Greenland. They have barrels of salt pork, beef, and a small store of coals, and little else, and are wretchedly paid. "Books," says Lord Campbell, "tell us that these sea-elephants grow to the length of twenty-four feet; but the sealers did not confirm this at all. One of us tried hard to make the Scotch mate say he had seen one eighteen feet long; but 'waull, he couldn't say.' Sixteen feet? 'Waull, he couldn't say.' Fourteen feet? 'Waull, yes, yes—something more like that;' but thirteen feet would seem a fair average size. . . . . One of our fellows bought a

clever little clay model of two men killing a sea-elephant, giving for it—he being an extravagant man—one pound and a bottle of rum. This pound was instantly offered to the servants outside in exchange for another bottle."

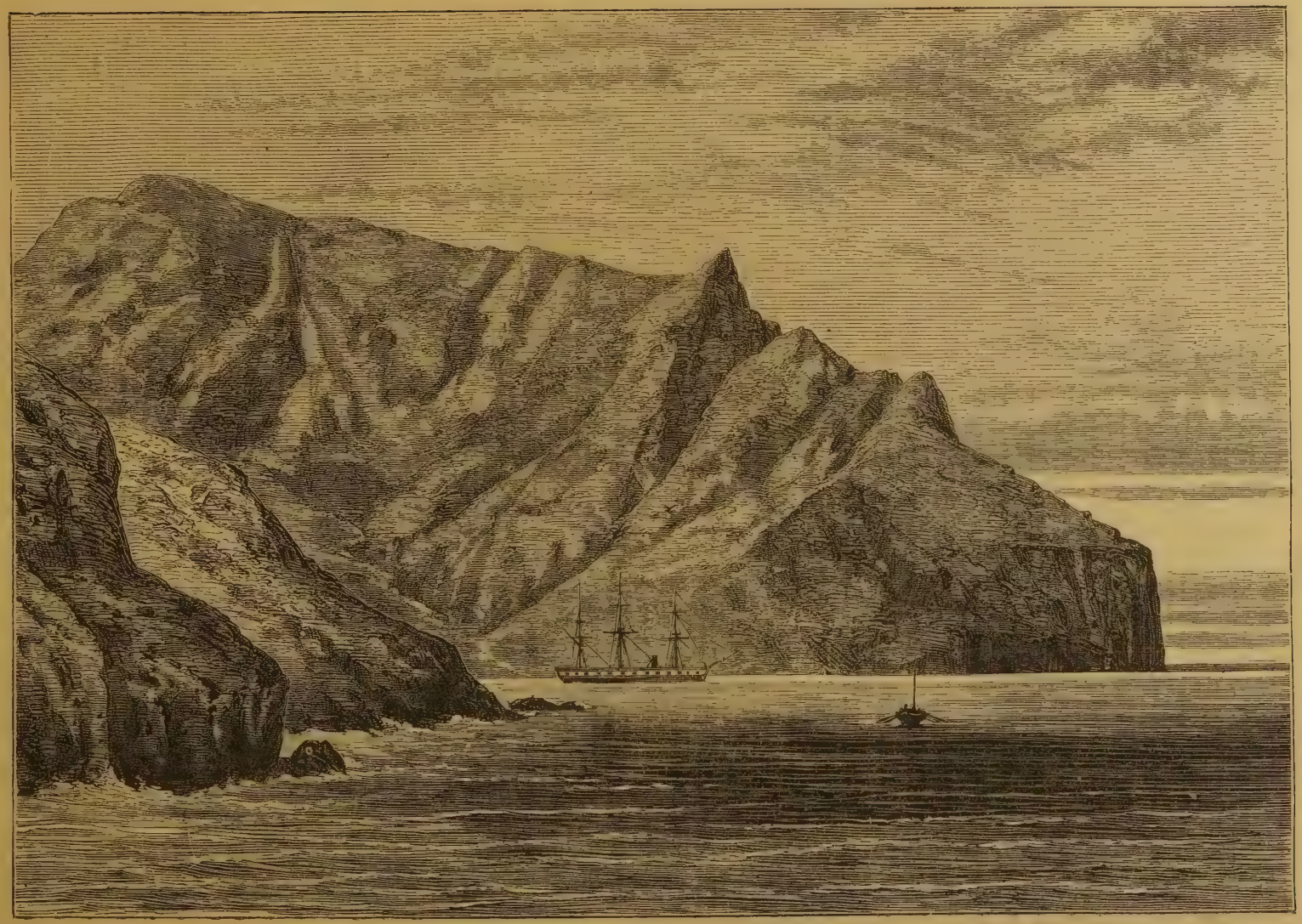
Crossing the Antarctic Circle, they were soon among the icebergs, keeping a sharp look-out for Termination Land, which has been marked on charts as a good stretch of coast seen by Wilkes, of the American expedition, thirty years before. To make a long story short, Captain Nares, after a careful search, *un-discovered* this discovery, finding no traces of the land. It was probably a long stretch of ice, or possibly a *mirage*, which phenomenon has deceived many a sailor before. John Ross once thought that he had discovered some grand mountains in the Arctic regions, which he named after the then First Lord of the Admiralty, Croker. Next year Parry sailed over the site of the supposed range; and the "Croker" Mountains became a standing joke against Ross.



THE "ACCUMULATOR."*

Icebergs of enormous size were encountered; several of three *miles* in length and two hundred feet or more in height were seen one day, all close together. But bergs of this calibre were exceptional; they were, however, very often over half a mile in length. "There are few people now alive," says the author we have recently quoted, "who have seen such superb Antarctic iceberg scenery as we have. We are steaming towards the supposed position of land, only some thirty miles distant, over a glass-like sea, unruffled by a breath of wind; past great masses of ice, grouped so close together in some cases as to form an unbroken wall of cliff several miles in length. Then, as we pass within a few hundred yards, the chain breaks up into two or three separate bergs, and one sees—and beautifully from the mast-head—the blue sea and distant horizon between perpendicular walls of glistening alabaster white, against which the long swell dashes, rearing up in great blue-green heaps, falling back in a torrent of rainbow-flashing spray, or goes roaring into the azure caverns, followed immediately by a thundering *thud*, as the compressed air within buffets it back again in a torrent of seething white foam." Neither words adequately describe the beauty of many of the icebergs seen. One had three high arched caverns penetrating far to its interior; another had a large tunnel through which they could see the horizon. The delicate colouring of these bergs is most lovely—sweeps of azure blue and pale sea-green with dazzling white; glittering, sparkling crystal merging into depths of indigo blue; stalactite icicles hanging from the walls and roofs of cavernous openings. The reader will imagine the beauty of the scene at sunrise and sunset, when as many as eighty or ninety bergs were sometimes in sight. The sea was intensely green from the presence of minute algæ, through belts of which the vessel passed, while the sun, sinking in a golden blaze, tipped and lighted up the ice and snow, making them sparkle as with

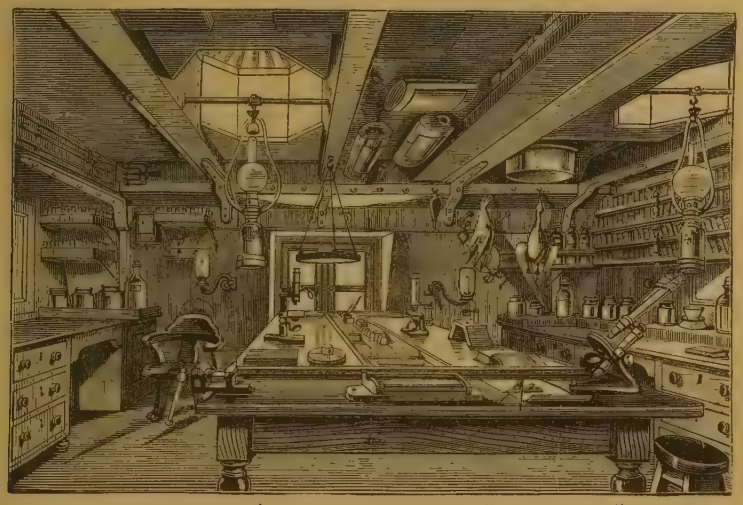
* This is an apparatus consisting of a number of india-rubber bands suspended from the mast-head, during dredging operations, which indicates, by its expansion and contraction, how the dredge is passing over the inequalities of the bottom.



THE "CHALLENGER" AT JUAN FERNANDEZ.

brightest gems. A large number of tabular icebergs, with quantities of snow on their level tops, were met. They amused themselves by firing a 9-pounder Armstrong at one, which brought the ice down with a rattling crash, the face of the berg cracking, splitting, and splashing down with a roar, making the water below white with foam and powdered ice. These icebergs were all stratified, at more or less regular distances, with blue lines, which before they capsized or canted from displacement of their centres of gravity, were always horizontal. During a gale, the *Challenger* came into collision with a berg, and lost her jibboom, "dolphin-striker," and other head-gear. An iceberg in a fog or gale of wind is not a desirable obstruction to meet at sea.

The observations made for deep-sea temperatures gave some remarkable results. Here, among the icebergs, a band or stratum of water was found, at a depth of eighty to 200

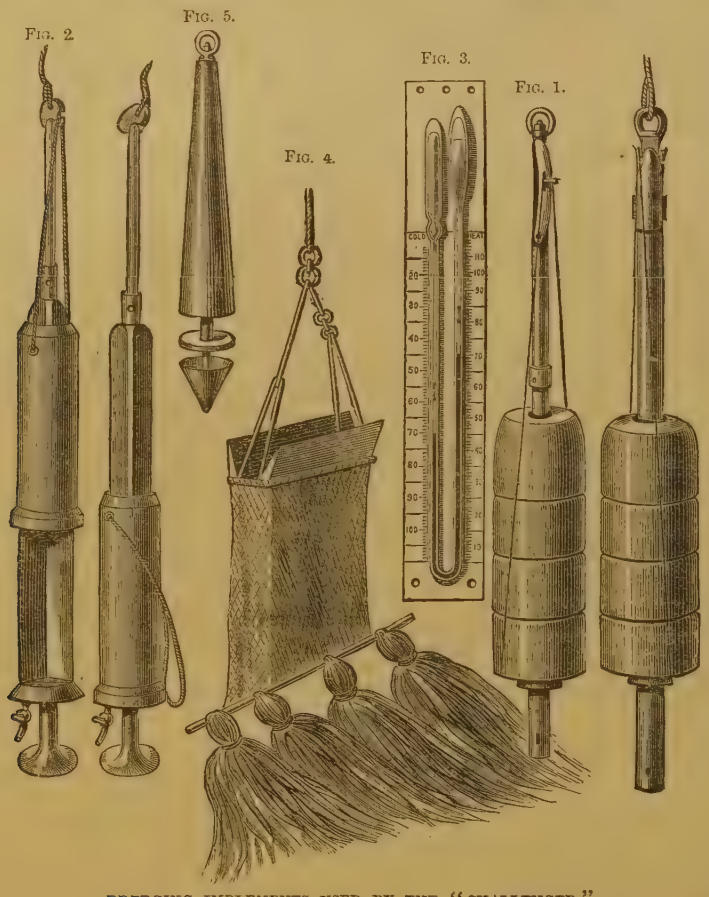


THE NATURALIST'S ROOM ON BOARD THE "CHALLENGER."

fathoms, *colder* than the water either above or below it. Take one day as an example: on the 19th of February the surface temperature of the sea-water was 32°; at 100 fathoms it was 29·2°; while at 300 fathoms it had risen to 33°. In the Atlantic, on the eastern side about the tropics, the *bottom* temperature was found to be very uniform at 35·2°, while it might be broiling hot on the surface. Further south, on the west side of the Atlantic below the equator, the bottom was found to be very nearly three degrees cooler. It is believed that the cold current enters the Atlantic from the Antarctic, and does not rise to within 1,700 fathoms of the surface. These, and many kindred points, belong more properly to another section of this work, to be hereafter discussed.

The *Challenger* had crossed, and sounded, and dredged the broad Atlantic from Madeira to the West Indies—finding their deepest water off the Virgin Islands; thence to Halifax, Nova Scotia; recrossed it to the Azores, Canary, and Cape de Verde Islands; recrossed it once more in a great zig-zag from the African coast, through the equatorial regions to Bahia, Brazil; and thence, if the expression may be used, by a great angular

sweep through the Southern Ocean to Tristan d'Acunha *en route* to the Cape, where they made an interesting discovery, one that, unlike their other findings, was most interesting to the *discovered* also. It was that of *two* modern Robinson Crusoes, who had been living by themselves a couple of years on a desolate rocky island, the name of which, "Inaccessible," rightly describes its character and position in mid ocean. Juan Fernandez, the *locale* of Defoe's immortal story, is nothing to it now-a-days, and is constantly visited.



DREDGING IMPLEMENTS USED BY THE "CHALLENGER."

Fig 1, Sounding machines. Fig 2, Slip water-bottles. Fig. 3, Deep-sea thermometer. Fig. 4, The dredge. Fig. 5, Cup sounding lead.

On arrival at the island of Tristan d'Acunha, itself a miserable settlement of about a dozen cottages, the people, mostly from the Cape and St. Helena, some of them mulattoes, informed the officers of the *Challenger* that two Germans, brothers, had some time before settled, for the purpose of catching seals, on a small island about thirty miles off, and that, not having been over there or seen any signs of them for a long time, they feared that they had perished. It turned out afterwards that the Tristan d'Acunha people had not taken any trouble in the matter, looking on them as interlopers on their fishing-grounds. They had promised to send them some animals—a bull, cow, and heifer—but, although they had stock and fowls of all kinds, had left them to their fate. But first as to this

little-known Tristan d'Acunha, of which Lord George Campbell* furnishes the following account:—"It is a circular-shaped island, some nine miles in diameter, a peak rising in the centre 8,300 feet high—a fine sight, snow-covered as it is two-thirds of the way down. In the time of Napoleon a guard of our marines was sent there from the Cape; but the connection between Nap's being caged at St. Helena and a guard of marines occupying this island is not very obvious, is it? Any way, that was the commencement of a settlement which has continued with varying numbers to this day, the marines having long ago been withdrawn, and now eighty-six people—men, women, and children—live here. . . . A precipitous wall of cliff, rising abruptly from the sea, encircles the island, excepting where the settlement is, and there the cliff recedes and leaves a long grass slope of considerable extent, covered with grey boulders. The cottages, in number about a dozen, look very Scotch from the ship, with their white walls, straw roofs, and stone dykes around them. Sheep, cattle, pigs, geese, ducks, and fowls they have in plenty, also potatoes and other vegetables, all of which they sell to whalers, who give them flour or money in exchange. The appearance of the place makes one shudder; it looks so thoroughly as though it were always blowing there—which, indeed, it is, heavy storms continually sweeping over, killing their cattle right and left before they have time to drive them under shelter. They say that they have lost 100 head of cattle lately by these storms, which kill the animals, particularly the calves, from sheer fatigue." The men of the place often go whaling or sealing cruises with the ships that touch there.

The *Challenger* steamed slowly over to Inaccessible Island during the night, and anchored next morning off its northern side, where rose a magnificent wall of black cliff, splashed green with moss and ferns, rising sheer 1,300 feet above the sea. Between two headlands a strip of stony beach, with a small hut on it, could be seen. This was the residence of our two Crusoes.

Their story, told when the first exuberance of joy at the prospect of being taken off the island had passed away, was as follows:—One of the brothers had been cast away on Tristan d'Acunha some years before, in consequence of the burning of his ship. There he and his companions of the crew had been kindly treated by the settlers, and told that at one of the neighbouring islands 1,700 seals had been captured in one season. Telling this to a brother when he at last reached home in the Fatherland, the two of them, fired with the ambition of acquiring money quickly, determined to exile themselves for a while to the islands. By taking passage on an outward-bound steamer from Southampton, and later transferring themselves to a whaler, they reached their destination in safety on the 27th of November, 1871. They had purchased an old whale-boat—mast, sails, and oars complete—and landed with a fair supply of flour, biscuit, coffee, tea, sugar, salt, and tobacco, sufficient for present needs. They had blankets and some covers, which were easily filled with bird's feathers—a German could hardly forget his national luxury, his feather-bed. They had provided themselves with a wheelbarrow, sundry tools, pots and kettles; a short Enfield rifle, and an old fowling-piece, and a very limited supply

* "Log Letters from the *Challenger*."

of powder, bullets, and shot. They had also sensibly provided themselves with some seeds, so that, all in all, they started life on the island under favourable circumstances.

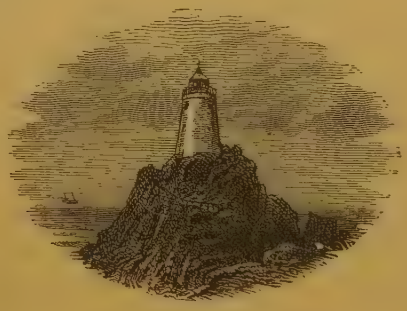
The west side of the island, on which they landed, consisted of a beach some three miles in length, with a bank of earth, covered with the strong long tussock grass, rising to the cliff, which it was just possible to scale. The walls of rock by which the island is bounded afforded few opportunities for reaching the comparatively level plateau at the top. Without the aid of the grass it was impossible, and in one place, which had to be climbed constantly, it took them an hour and a half of hard labour, holding on with hands and feet, and *even teeth*, to reach the summit. Meantime, they had found on the north side a suitable place for building their hut, near a waterfall that fell from the side of the mountain, and close to a wood, from which they could obtain all the firewood they required. Their humble dwelling was partly constructed of spars from the vessel that had brought them to the island, and was thatched with grass. About this time (December) the seals were landing in the coast, it being the pupping season, and they killed nineteen. In hunting them their whale-boat, which was too heavy for two men to handle, was seriously damaged in landing through the surf; but yet, with constant bailing, could be kept afloat. A little later they cut it in halves, and constructed from the best parts a smaller boat, which was christened the *Sea Cart*. During the summer rains their house became so leaky that they pulled it down, and shifted their quarters to another spot. At the beginning of April the tussock grass, by which they had ascended the cliff, caught fire, and their means of reaching game, in the shape of wild pigs and goats, was cut off. Winter (about our summer-time, as in Australia, &c.) was approaching, and it became imperative to think of laying in provisions. By means of the *Sea Cart* they went round to the west side, and succeeded in killing two goats and a pig, the latter of which furnished a bucket of fat for frying potatoes. The wild boars there were found to be almost uneatable; but the sows were good eating. The goats' flesh was said to be very delicate. An English ship passed them far out at sea, and they lighted a fire to attract attention, but in vain; while the surf was running too high, and their *Cart* too shaky to attempt to reach it.

Hitherto they had experienced no greater hardships than they had expected, and were prepared for. But in June [mid-winter] their boat was, during a storm, washed off the beach, and broken up. This was to them a terrible disaster; their old supplies were exhausted, and they were practically cut off from not merely the world in general, but even the rest of the island. They got weaker and weaker, and by August were little better than two skeletons.

The sea was too tempestuous, and the distance too great for them to attempt to swim round (as they afterwards did) to another part of the island. But succour was at hand; they were saved by the penguins, a very clumsy form of relief. The female birds came ashore in August to lay their eggs in the nests already prepared by their lords and masters, the male birds, who had landed some two or three weeks previously. Our good Germans had divided their last potato, and were in a very weak and despondent condition when the pleasant fact stared them in the face that they might now fatten on eggs *ad libitum*. Their new diet soon put fresh heart and courage in them, and when,

THE PERUVIAN IRONCLAD *HUASCAR.*

early in September, a French bark sent a boat ashore, they determined still to remain on the island. They arranged with the captain for the sale of their seal-skins, and bartered a quantity of eggs for some biscuit and a couple of pounds of tobacco. Late in October a schooner from the Cape of Good Hope called at the island, and on leaving, promised to return for them, as they had decided to quit the island, not having had any success in obtaining peltries or anything else that is valuable; but she did not re-appear, and in November their supplies were again at starvation-point. Selecting a calm day, the two Crusoes determined to swim round the headland to the eastward, taking with them their rifles and blankets, and towing after them an empty oil-barrel containing their clothes, powder, matches, and kettle. This they repeated later on several occasions, and, climbing the cliffs by the tussock grass, were able to kill or secure on the plateau a few of the wild pigs. Sometimes one of them only would mount, and after killing a pig would cut it up and lower the hams to his brother below. They caught three little sucking-pigs, and towed them alive through the waves, round the point of their landing-place, where they arrived half drowned. They were put in an enclosure, and fed on green stuff and penguin's eggs—good feeding for a delicate little porker. Attempting on another occasion to tow a couple in the same way, the unfortunate pigs met a watery grave in the endeavour to weather the point, and one of the brothers barely escaped, with some few injuries, through a terrible surf which was beating on their part of the coast. Part of their time was passed in a cave during the cold weather. When the *Challenger* arrived their only rifle had burst in two places, and was of little use, while their musket was completely burst in all directions, and was being used as a blow-pipe to freshen the fire when it got low. Their only knives had been made by themselves from an old saw. Their library consisted of eight books and an atlas, and these, affording their only literary recreation for two years, they knew almost literally by heart. When they first landed they had a dog and two pups, which they, doubtless, hoped would prove something like companions. The dogs almost immediately left, and made for the penguin rookeries, where they killed and worried the birds by hundreds. One of them became mad, and the brothers thought it best to shoot the three of them. Captain Nares gave the two Crusoes a passage to the Cape, where one of them obtained a good situation; the other returned to Germany, doubtless thinking that about a couple of dozen seal-skins—all they obtained—was hardly enough to reward them for their two years' dreary sojourn on Inaccessible Island.



CHAPTER III.

The Men of the Sea.

The great Lexicographer on Sailors—The Dangers of the Sea—How Boys become Sailors—Young Amyas Leigh—The Genuine Jack Tar—Training-Ships *versus* the old Guard-Ships—"Sea-goers and Waisters,"—The Training Undergone—Routine on Board—Never-ending Work—Ship like a Lady's Watch—Watches and "Bells"—Old Grogram and Grog—The Sailor's Sheet Anchor—Shadows in the Seaman's Life—The Naval Cat—Testimony and Opinion of a Medical Officer—An Example—Boy Flogging in the Navy—Shakspeare and Herbert on Sailors and the Sea.

Dr. Johnson, whose personal weight seems to have had something to do with that carried by his opinion, considered going to sea a species of insanity.* "No man," said he, "will be a sailor who has contrivance enough to get himself into a jail: for being in a ship is being in a jail, with the chance of being drowned." The great lexicographer knew Fleet Street better than he did the fleet, and his opinion, as expressed above, was hardly even decently patriotic or sensible. Had all men thought as he professed to do—probably for the pleasure of saying something ponderously brilliant for the moment—we should have had no naval or commercial superiority to-day—in short, no England.

The dangers of the sea are serious enough, but need not be exaggerated. One writer † indeed, in serio-comic vein, makes his sailors sing in a gale—

> "When you and I, Bill, on the deck
> Are comfortably lying,
> My eyes! what tiles and chimney-pots
> About their heads are flying!"

leading us to infer that the dangers of town-life are greater than those of the sea in a moderate gale. We might remind the reader that Mark Twain has conclusively shown, from statistics, that more people die in bed comfortably at home than are killed by all the railroad, steamship, or other accidents in the world, the inference being that going to bed is a dangerous habit! But the fact is, that wherever there is danger there will be brave men found to face it—even when it takes the desperate form just indicated! So that there is nothing surprising in the fact that in all times there have been men ready to go to sea.

Of those who have succeeded, the larger proportion have been carried thither by the spirit of adventure. It would be difficult to say whether it has been more strongly developed through actual "surroundings," as believed by one of England's most intelligent and friendly critics,‡ who says, "The ocean draws them just as a pond attracts young ducks," or through the influence of literature bringing the knowledge of wonderful voyages and discoveries within the reach of all. The former are immensely strong influences. The boy who lives by, and loves the sea, and notes daily the ships of all

* All readers will remember Peter Simple, and how he tells us that "It has been from time immemorial the heathenish custom to sacrifice the greatest fool of the family to the prosperity and naval superiority of the country," and that he personally "was selected by general acclamation!" Marryat knew very well, however, that it was "younger sons," and not by any means necessarily the greatest fools of the family who went to sea.

† William Pitt, long Master-Attendant at Jamaica Dockyard, who died at Malta, in 1840. The song is often wrongly attributed to Dibdin, or Tom Hood the elder.

‡ Alphonse Esquiros, "English Seamen and Divers."

nations passing to and fro, or who, maybe, dwells in some naval or commercial port, and sees constantly great vessels arriving and departing, and hears the tales of sailors bold, concerning new lands and curious things, is very apt to become imbued with the spirit of adventure. How charmingly has Charles Kingsley written on the latter point!* How young Amyas Leigh, gentle born, and a mere stripling schoolboy, edged his way under the elbows of the sailor men on Bideford Quay to listen to Captain John Oxenham tell his stories of heaps—"seventy foot long, ten foot broad, and twelve foot high"—of silver bars, and Spanish treasure, and far-off lands and peoples, and easy victories over the coward Dons! How Oxenham, on a recruiting bent, sang out, with good broad Devon accent, "Who 'lists? who 'lists? who'll make his fortune?

"'Oh, who will join, jolly mariners all?
And who will join, says he, O!
To fill his pockets with the good red goold,
By sailing on the sea, O!'"

And how young Leigh, fired with enthusiasm, made answer, boldly, "I want to go to sea; I want to see the Indies. I want to fight the Spaniards. Though I'm a gentleman's son, I'd a deal liever be a cabin-boy on board your ship." And how, although he did not go with swaggering John, he lived to first round the world with great Sir Francis Drake, and afterwards fight against the "Invincible" Armada. The story had long before, and has many a time since, been enacted in various forms among all conditions of men. To some, however, the sea has been a last refuge, and many such have been converted into brave and hardy men, perforce themselves; while many others, in the good old days of press-gangs, appeared, as Marryat tells us, "to fight as hard not to be forced into the service as they did for the honour of the country after they were fairly embarked in it." It may not generally be known that the law which concerns impressing has never been abolished, although there is no fear that it will ever again be resorted to in these days of naval reserves, training-ships, and naval volunteers.

The altered circumstances of the age, arising from the introduction of steam, and the greatly increased inter-commercial relations of the whole world, have made the Jack Tar pure and simple comparatively rare in these days; not, we believe, so much from his disappearance off the scene as by the numbers of differently employed men on board by whom he is surrounded, and in a sense hidden. A few A.B.'s and ordinary seamen are required on any steamship; but the whole tribe of mechanicians, from the important rank of chief engineer downwards, from assistants to stokers and coal-passers, need not know one rope from another. On the other hand, the rapid increase of commerce has apparently outrun the natural increase of qualified seamen, and many a good ship nowadays, we are sorry to say, goes to sea with a very motley crew of "green" hands, landlubbers, and foreigners of all nationalities, including Lascars, Malays, and Kanakas, from the Sandwich Islands. A "confusion of tongues," not very desirable on board a vessel, reigns supreme, and renders the position of the officers by no means enviable. To obviate these difficulties, and furnish a supply of good material both to

* "Westward Ho!"

the Royal Navy and Mercantile Marine, training-ships have been organised, which have been, so far, highly successful. Let these embryo defenders of their country's interests have the first place.

Of course, at all periods the boys, and others who entered to serve before the mast, received some training, and picked up the rest if they were reasonably clever. The brochure of "an old salt,"* which appeared a few years ago, gives a fair account of his own treatment and reception. Running away from London, as many another boy has done, with a few coppers in his pocket, he tramped to Sheerness, taking by the way a hearty supper of turnips with a family of sheep in a field. Arrived at his destination, he found a handsome flag-ship, surrounded by a number of large and small vessels. Selecting the very smallest—as best adapted to his own size—he went on board, and asked the first officer he met—one who wore but a single epaulet—whether his ship was *manned with boys?*" He was answered, "No, I want men; and pray what may you want?" "I want to go to sea, sir, please." "You had better go home to your mother," was the answer. With the next officer—"a real captain, wearing grey hair, and as straight as a line"—he fared better, and was eventually entered as a third-class boy, and sent on board a guard-ship. Here he was rather fortunate in being taken in charge by a petty officer, who had, as was often the case then, his wife living on board. The lady ruled supreme in the mess. She served out the grog, too, and, to prevent intoxication among the men, used to keep one finger inside the measure! This enabled her to the better take care of her husband. She is described as the best "man" in the mess, and irresistibly reminds us of Mrs. Trotter in "Peter Simple," who had such a horror of rum that she could not be induced to take it except when the water was bad. The water, however, always *was* bad! But the former lady took good care of the new-comer, while, as we know, Mrs. Trotter fleeced poor Peter out of three pounds sterling and twelve pairs of stockings before he had been an hour on board. Mr. Mindry tells the usual stories of the practical jokes he had to endure—about being sent to the doctor's mate for mustard, for which he received a peppering; of the constant thrashings he received—in one case, with a number of others, receiving two dozen for *losing his dinner*. He was cook of the mess for the time, and having mixed his dough, had taken it to the galley-oven, from the door of which a sudden lurch of the ship had ejected it on the main deck, "the contents making a very good representation of the White Sea." The crime for which he and his companions suffered was for endeavouring to scrape it up again! But the gradual steps by which he was educated upwards, till he became a gunner of the first class, prove that, all in all, he had cheerily taken the bull by the horns, determined to rise as far and fast as he might in an honourable profession. He was after a year or so transferred to a vessel fitting for the West Indies, and soon got a taste of active life. This was in 1837. Forty or fifty years before, the guard-ships were generally little better than floating pandemoniums. They were used partly for breaking in raw hands, and were also the intermediate stopping-places for men waiting to join other ships. In a guard-ship of the period described, a most heterogeneous mass of humanity

* Robert Mindry, "Chips from the Log of an Old Salt."

was assembled. Human invention could not scheme work for the whole, while skulking, impracticable in other vessels of the Royal Navy, was deemed highly meritorious there. A great body of men were thus very often assembled together, who resolved themselves into hostile classes, separated as any two castes of the Hindoos. A clever writer in *Blackwood's Magazine*, more than fifty years ago, describes them first as "sea-goers,"—*i.e.*, sailors separated from their vessels by illness, or temporary causes, or ordered to other vessels, who looked on the guard-ship as a floating hotel, and, having what they were

THE "CHICHESTER" TRAINING-SHIP.

pleased to call *ships of their own*, were the aristocrats of the occasion, who would do no more work than they were obliged. The second, and by far the most numerous class, were termed "waisters," and were the simple, the unfortunate, or the utterly abandoned, a body held on board in the utmost contempt, and most of whom, in regard to clothing, were wretched in the extreme. The "waister" had to do everything on board that was menial—swabbing, sweeping, and drudging generally. At night, in defiance of his hard and unceasing labour, he too often became a bandit, prowling about seeking what he might devour or appropriate. What a contrast to the clean orderly training-ships of to-day! Some little information on this subject, but imperfectly understood by the public, may perhaps be permitted here.

It is not generally known that our supply of seamen for the Royal Navy is nowadays almost entirely derived from the training-ships — first established about fourteen years ago. In a late blue-book it was stated that during a period of five years only 107 men had been entered from other sources, who had not previously served. Training-ships, accommodating about 3,000, are stationed at Devonport, Falmouth, Portsmouth, and Portland, where the lads remain for about a year previous to being sent on sea-going ships. The age of entry has varied at different periods; it is now fifteen to sixteen and a half years. The recruiting statistics show whence a large proportion come—from the men of Devon, who contribute, as they did in the days of Drake and Hawkins, Gilbert and Raleigh, the largest quota of men willing to make their "heritage the sea."

Dr. Peter Comrie, R.N., a gentleman who has made this matter a study, informs the writer that on board these ships, as regards cleanliness, few gentlemen's sons are better attended to, while their education is not neglected, as they have a good schoolmaster on all ships of any size. He says that boys brought up in the service not merely make the best seamen, but generally like the navy, and stick to it. The order, cleanliness, and tidy ways obligatory on board a man-of-war, make, in many cases, the ill-regulated fo'castle of most merchant ships very distasteful to them. Their drilling is just sufficient to keep them in healthy condition. No one can well imagine the difference wrought in the appearance of the street arab, or the Irish peasant boy, by a short residence on board one of these ships. He fills out, becomes plump, loses his gaunt, haggard, hunted look; is natty in his appearance, and assumes that jaunty, rolling gait that a person gifted with what is called "sea-legs" is supposed to exhibit. Still, "we," writes the doctor, "have known Irish boys, who had very rarely even perhaps seen animal food, when first put upon the liberal dietary of the service, complain that they were being starved, their stomachs having been so used to be distended with large quantities of vegetables, that it took some time before the organ accommodated itself to a more nutritious but less filling dietary."

You have only got to watch the boy from the training-ship on leave to judge that the navy has yet some popularity. Neatly dressed, clean and natty, surrounded by his quondam playmates, he is "the observed of all observers," and is gazed at with admiring respect by the street arab from a respectful distance. He has, perhaps, learned to "spin a few yarns," and give the approved hitch to his trousers, and, while giving a favourable account of his life on board ship, with its forecastle jollity and "four bitter," is the best recruiting-officer the service can have. The great point to be attended to, in order to make him a sailor, is that "you must catch him young."* That a good number have been so caught is proved by the navy estimates, which now provide for several thousand boys, more than half of the number in sea-going ships.

* The conditions for entering a Government training-ship for the service involve, 1st, the consent of parents or proper guardians; 2nd, the candidate must sign to serve ten years commencing from the age of eighteen. A bounty of £6 is paid to provide outfit, and the boy receives sixpence a day. At the age of eighteen he receives one shilling and a penny per day—the same as an ordinary seaman. Each candidate passes a medical examination, and must be from fifteen to sixteen and a half years of age. The standard height is five feet three and a half inches for boys sixteen years old.

Governments, as governments, may be paternal, but are rarely very benevolent, and the above excellent institutions are only organised for the safety and strength of the navy. There is another class of training-ships, which owe their existence to benevolence, and deserve every encouragement—those for rescuing our street waifs from the treadmill and prison. The larger part of these do not enter the navy, but are passed into the Merchant Marine, their training being very similar. The Government simply *lends* the ship. Thus the *Chichester*, at Greenhithe, a vessel which had been in 1868 a quarter of a century lying useless—*never* having seen service—was turned over to a society, a mere shell or carcase, her masts, rigging, and other fittings having to be provided by private subscriptions. Her case irresistibly reminds the writer of a vessel, imaginary only in name, described by James Hannay: *—"H.M.S. *Patagonian* was built as a three-decker, at a cost of £120,000, when it was discovered that she could not sail. She was then cut down into a frigate, at a cost of £50,000, when it was found out that she would not tack. She was next built up into a two-decker, at a cost of another £50,000, and then it was discovered she could be made useful, so the Admiralty kept her unemployed for ten years!" A good use was, however, found at last for the *Chichester*, thanks to benevolent people, the quality of whose mercy is twice blessed, for they both help the wretched youngsters, and turn them into good boys for our ships. Some of these street arabs previously have hardly been under a roof at night for years together. Hear M. Esquiros:—"To these little ones London is a desert, and, though lost in the drifting sands of the crowd, they never fail to find their way. The greater part of them contract a singular taste for this hard and almost savage kind of life. They love the open sky, and at night all they dread is the eye of the policeman; their young minds become fertile in resources, and glory in their independence in the 'battle of life;' but if no helping hand is stretched out to arrest them in this fatal and down-hill path, they surely gravitate to the treadmill and the prison. How could it be otherwise? . . . The question is, what are these lads good for?" That problem, M. Esquiros, as you with others predicted, has been solved satisfactorily. The poor lads form excellent raw material for our ever-increasing sea-service.

The training of a naval cadet—*i.e.*, an embryo midshipman, or "midshipmite" (as poor Peter Simple was irreverently called—before, however, the days of naval cadets)—is very similar in many respects to that of an embryo seaman, but includes many other acquirements. After obtaining his nomination from the Admiralty, and undergoing a simple preliminary examination at the Royal Naval College in ordinary branches of knowledge, he is passed to a training-ship, which to-day is the *Britannia* at Dartmouth. Here he is taught all the ordinary acquirements in rigging, seamanship, and gunnery; and, to fit him to be an officer, he is instructed in taking observations for latitude and longitude, in geometry, trigonometry, and algebra. He also goes through a course of drawing-lessons and modern languages. He is occasionally sent off on a brig for a short cruise, and after a year on the training-ship, during which he undergoes a quarterly examination, he is passed to a sea-going ship. His position on leaving depends entirely on his certificate—if he obtains one of the First Class, he

* In "Singleton Fontenoy, R.N."

is immediately rated midshipman; while if he only obtains a Third Class certificate, he will have to serve twelve months more on the sea-going ship, and pass another examination before he can claim that rank.*

The actual experiences of intelligent sailors, or voyagers, written by themselves, have, of course, a greater practical value than the sea-stories of clever novelists, while the latter, as a class, confine themselves very much to the quarter-deck. Dana's "Two Years Before the Mast" is so well known that few of our readers need to be told that it is the story of an American student, who had undermined his health by over-application, and who took a voyage, *viâ* Cape Horn, to California in order to recover it. But the old brig *Pilgrim*, bound to the northern Pacific coast for a cargo of hides, was hardly a fair example, in some respects, of an ordinary merchant-vessel, to say nothing of a fine clipper or modern steam-ship. Dana's experiences were of the roughest type, and may be read by boys, anxious to go to sea, with advantage, if taken in conjunction with those of others; many of them are common to all grades of sea service. A little work by a "Sailor-boy,"† published some years ago, gives a very fair idea of a seaman's lot in the Royal Navy, and the two stories in conjunction present a fair average view of sea-life and its duties.

Passing over the young sailor-boy's admission to the training-ship—the "Guardho," as he terms it—we find his first days on board devoted to the mysteries of knots and hitch-making, in learning to lash hammocks, and in rowing, and in acquiring the arts of "feathering" and "tossing" an oar. Incidentally he gives us some information on the etiquette observed in boats passing with an officer on board. "For a lieutenant, the coxswain only gets up and takes his cap off; for a captain, the boat's crew lay on their oars, and the coxswain takes his cap off; and for an admiral the oars are tossed (*i.e.*, raised perpendicularly, *not* thrown in the air!), and all caps go off." Who would not be an admiral? While in this "instruction" he received his sailor's clothes—a pair of blue cloth trousers, two pairs of white duck ditto, two blue serge and two white frocks, two pairs of white "jumpers," two caps, two pairs of stockings, a knife, and a marking-type. As soon as he is "made a sailor" by these means, he was ordered to the mast-head, and tells with glee how he was able to go up outside by the futtock shrouds, and not through "lubber's hole." The reader doubtless knows that the lubber's hole is an open space between the head of the lower mast and the edge of the top; it is so named from the supposition that a "land-lubber" would prefer that route. The French call it the *trou du chat*—the hole through which the cat would climb. Next he commenced cutlass-drill, followed by rifle-drill, big-gun practice, instruction in splicing, and all useful knots, and in using the compass and lead-line. He was afterwards sent on a brig for a short sea cruise. "Having," says he, "to run aloft without shoes was a heavy trial to me, and my feet often were so sore and blistered that I have sat down in the 'tops' and cried with the pain; yet up I had to go, and furl and loose my sails; and up I did go, blisters and all. Sometimes the pain was so bad I could not move smartly, and then the unmerited rebuke from a thoughtless officer was as gall and wormwood to me."

Dana, in speaking of the incessant work on board any vessel, says, "A ship is like a lady's

* *Vide* "The Queen's Regulations and the Admiralty Instructions for the Government of Her Majesty's Naval Service;" also Glascock's "Naval Officer's Manual."

† "A Sailor-Boy's Log-Book from Portsmouth to the Peiho," edited by Walter White.

watch—always out of repair." When, for example, in a calm, the sails hanging loosely, the hot sun pouring down on deck, and no way on the vessel, which lies

"As idle as a painted ship
Upon a painted ocean,"

there is always sufficient work for the men, in "setting up" the rigging, which constantly requires lightening and repairing, in picking oakum for caulking, in brightening up the metal-

INSTRUCTION ON BOARD A MAN-OF-WAR.

work, and in holystoning the deck. The holystone is a large piece of porous stone,* which is dragged in alternate ways by two sailors over the deck, sand being used to increase its effect. It obtains its name from the fact that Sunday morning is a very common time on many merchant-vessels for cleaning up generally.

The daily routine of our young sailor on the experimental cruises gave him plenty of employment. In his own words it was as follows :—Commencing at five a.m.—"Turn hands up; holystone or scrub upper deck; coil down ropes. Half-past six—breakfast, half an

* A naval friend kindly informs me that the Malta holystones are excellent, natural lava being abundant.

hour; call the watch, watch below, clean the upper deck; watch on deck, clean wood and brass-work; put the upper decks to rights. Eight a.m.—hands to quarters; clean guns and arms; division for inspection; prayers; make sail, reef topsails, furl top-sails, top-gallant sails, royals; reef courses, down top-gallant and royal yards. This continued till eight bells, twelve o'clock, dinner one hour. 'All hands again; cutlass, rifle, and big-gun drill till four o'clock; clear up decks, coil up ropes;' and then our day's work is done." Then they would make little trips to sea, many of them to experience the woes of sea-sickness for the first time.

But the boys on the clean and well-kept training-brig were better off in all respects than poor Dana. When first ordered aloft, he tells us, "I had not got my 'sea-legs' on, was dreadfully sea-sick, with hardly strength to hold on to anything, and it was 'pitch-dark' * * * How I got along I cannot now remember. I 'laid out' on the yards, and held on with all my strength. I could not have been of much service; for I remember having been sick several times before I left the top-sail yard. Soon all was snug aloft, and we were again allowed to go below. This I did not consider much of a favour; for the confusion of everything below, and that inexpressibly sickening smell, caused by the shaking up of bilge-water in the hold, made the steerage but an indifferent refuge to the cold, wet decks. I had often read of the nautical experiences of others, but I felt as though there could be none worse than mine; for, in addition to every other evil, I could not but remember that this was only the first night of a two years' voyage. When we were all on deck, we were not much better off, for we were continually ordered about by the officer, who said that it was good for us to be in motion. Yet anything was better than the horrible state of things below. I remember very well going to the hatchway and putting my head down, when I was oppressed by nausea, and felt like being relieved immediately. We can fully recommend the example of Dana, who, acting on the advice of the black cook on board, munched away at a good half-pound of salt beef and hard biscuit, which, washed down with cold water, soon, he says, made a man of him.

Some little explanation of the mode of dividing time on board ship may be here found useful. A "watch" is a term both for a division of the crew and of their time: a full watch is four hours. At the expiration of each four hours, commencing from twelve o'clock noon, the men below are called in these or similar terms—"All the starboard (or port) watch ahoy! Eight bells!" The watch from four p.m. to eight p.m. is divided, on a well-regulated ship, into two "dog-watches;" the object of this is to make an uneven number of periods—seven, instead of six, so that the men change the order of their watches daily. Otherwise, it will be seen that a man, who, on leaving port, stood in a particular watch—from twelve noon to four p.m.—would stand in the same watch throughout the voyage; and he who had two night-watches at first would always have them. The periods of the "dog-watches" are usually devoted to smoking and recreation for those off duty.

As the terms involved must occur frequently in this work, it is necessary also to explain for some readers the division of time itself by "bells." The limit is "eight bells," which are struck at twelve, four, and eight o'clock a.m. or p.m. The ship's bell is sounded each half-hour. Half-past any of the above hours is "one bell" struck sharply by itself. At the hour, two strokes are made sharply *following* each other. Expressing the strokes by signs, half-past twelve would be I (representing one stroke); one o'clock would be II (two strokes

sharply struck, one after the other); half-past one, II I; two o'clock, II II; half-past two, II II I; three o'clock, II II II; half-past three, II II II I; and four o'clock, II II II II, or "eight bells." The process is then repeated in the next watch, and the only disturbing element comes from the elements, which occasionally, when the vessel rolls or pitches greatly, cause the bell to strike without leave.

Seamen before the mast are divided into three classes—able, ordinary, and boys. In the merchant service a "green hand" of forty may be rated as a boy; a landsman must ship for boy's wages on the first voyage. Merchant seamen rate themselves—in other words, they cause themselves to be entered on the ship's books according to their qualifications and experience. There are few instances of abuse in this matter, and for good reason. Apart from the disgrace and reduction of wages and rating which would follow, woe to the man who sets himself up for an A.B. when he should enter as a boy; for the rest of the crew consider it a fraud on themselves. The vessel would be short-handed of a man of the class required, and their work would be proportionately increased. No mercy would be shown to such an impostor, and his life on board would be that of a dog, but anything rather than that of a "jolly sea-dog."*

There are lights in the sailor's chequered life. Seamen are, Shakespeare tells us, "but men"—and, if we are to believe Dibdin, grog is a decided element in their happier hours. "Grog" is now a generic term; but it was not always. One Admiral Vernon—who persisted in wearing a grogram† tunic so much that he was known among his subordinates as "Old Grog"—earned immortality of a disagreeable nature by watering the rum-ration of the navy to its present standard. At 11.30 a.m., on all ships of the Royal Navy nowadays, half a gill of watered rum—two parts of water to one of the stronger drink—is served out to each of the crew, unless they have forfeited it by some act of insubordination. The officers, including the petty officers, draw half a gill of pure rum; the former put it into the general mess, and many never taste it. "Six-water" grog is a mild form of punishment. "Splicing the main-brace" infers extra grog served out for extraordinary service. Formerly, and, indeed, as late as forty odd years ago, the daily ration was a full gill; but, as sailors traded and bartered their drinks among themselves, it would happen once in awhile that one would get too much "on board." It has happened occasionally in consequence that a seaman has tumbled overboard, or fallen from the yards or rigging, and has met an inglorious death. Boys are not allowed grog in the Royal Navy, and there is no absolute rule among merchant-vessels. In the American navy there is a coin allowance in lieu of rum, and every nation has its own peculiarities in this matter. In the French navy, wine, very *ordinaire,* and a little brandy is issued.

There are shadows, too, in the sailor's life—as a rule, he brings them on himself, but by no means always. If sailors are "but men," officers rank in the same category, and occasionally act like brutes. So much has been written on the subject of the naval "cat"—a punishment once dealt out for most trifling offences, but which has now been abolished, that the writer has some diffidence in approaching the subject. A volume might be

* *Vide* Dana's "Seaman's Manual." † A form of heavy pile silk.

written on the theme; let the testimony of Dr. Stables,* a surgeon of the Royal Navy, suffice. It shall be told in his own words:—

"One item of duty there is, which occasionally devolves on the medical officer, and for the most part goes greatly against the feeling of the young surgeon; I refer to his compulsory attendance at floggings. It is only fair to state that the majority of captains and commanders use the cat as seldom as possible, and that, too, only sparingly. In some ships, however, flogging is nearly as frequent as prayers of a morning. Again, it is more common on foreign stations than at home, and boys of the first or second class, marines, and ordinary seamen, are for the most part the victims. . . . We were at anchor in Simon's Bay. All the minutiæ of the scene I remember as though it were but yesterday. The morning was cool and clear, the hills clad in lilac and green, sea-birds floating high in air, and the waters of the bay reflecting the blue of the sky, and the lofty mountain-sides forming a picture almost dream-like in its quietude and serenity. The men were standing about in groups, dressed in their whitest of pantaloons, bluest of smocks, and neatest of black-silk neckerchiefs. By-and-by the culprit was led in by a file of marines, and I went below with him to make the preliminary examination, in order to report whether or not he might be fit for the punishment.

"He was as good a specimen of the British mariner as one could wish to look upon—hardy, bold, and wiry. His crime had been smuggling spirits on board.

"'Needn't examine me, doctor,' said he; 'I aint afeared of their four dozen; they can't hurt me, sir—leastways my back, you know—my breast, though; hum—m!' and he shook his head, rather sadly I thought, as he bent down his eyes.

"'What,' said I, 'have you anything the matter with your chest?'

"'Nay, doctor, nay; it's my feelings they'll hurt. I've a little girl at home that loves me, and, bless you, sir, I won't look her in the face again nohow.'

"I felt his pulse. No lack of strength there, no nervousness; the artery had the firm beat of health, the tendons felt like rods of iron beneath the finger, and his biceps stood out hard and round as the mainstay of an old seventy-four. . . . All hands had already assembled—the men and boys on one side, and the officers, in cocked hats and swords, on the other. A grating had been lashed against the bulwark, and another placed on deck beside it. The culprit's shoulders and back were bared, and a strong belt fastened around the lower part of the loins for protection; he was then firmly tied by the hands to the upper, and by the feet to the lower grating; a little basin of cold water was placed at his feet, and all was now prepared. The sentence was read, and orders given to proceed with the punishment. The cat is a terrible instrument of torture; I would not use it on a bull unless in self-defence; the shaft is about a foot and a half long, and covered with green or red baize, according to taste; the thongs are nine, about twenty-eight inches in length, of the thickness of a goose-quill, and with two knots tied on each. Men describe the first blow as like a shower of molten lead.

"Combing out the thongs with his five fingers before each blow, firmly and determinedly was the first dozen delivered by the bo'swain's mate, and as unflinchingly received.

* "Medical Life in the Navy," by W. Stables, M.D., &c.

"Then, 'One dozen, sir, please,' he reported, saluting the commander.

"'Continue the punishment,' was the calm reply.

"A new man, and a new cat. Another dozen reported; again the same reply. Three dozen. The flesh, like burning steel, had changed from red to purple, and blue, and white; and between the third and fourth dozen, the suffering wretch, pale enough now, and in all probability sick, begged a comrade to give him a mouthful of water.

"There was a tear in the eye of the hardy sailor who obeyed him, whispering as he did so, 'Keep up, Bill; it'll soon be over now.'

"'Five, six,' the corporal slowly counted; 'seven, eight.' It is the last dozen, and how acute must be the torture! 'Nine, ten.' The blood comes now fast enough, and—yes, gentle reader, I *will* spare your feelings. The man was cast loose at last, and put on the sick-list; he had borne his punishment without a groan, and without moving a muscle. A large pet monkey sat crunching nuts in the rigging, and grinning all the time; I have no doubt *he* enjoyed the spectacle immensely, *for he was only an ape.*"

Dr. Stables gives his opinion on the use of the cat in honest and outspoken terms. He considers "corporal punishment, as applied to men, *cowardly*, *cruel*, and debasing to *human nature;* and as applied to boys, *brutal*, and sometimes even *fiendish.*"

Dr. Stables does not stand alone. There is a strong feeling on the part of a majority of Englishmen against corporal punishment. It is, therefore, matter for great satisfaction to know that the use of the naval cat has been abolished; for, important as is good discipline on board ship, most of the leading authorities believe that it can be maintained without it. The captain of a vessel is its king, reigning in a little world of his own, and separated for weeks or months from the possibility of reprimand. If he is a tyrannical man, he can make his ship a floating hell for all on board. A system of fines for small offences has been proposed, and the idea has this advantage, that in case they prove on investigation to have been unjustly imposed, the money can be returned. The disgrace of a flogging sticks to a boy or man, and, besides, as a punishment is infinitely too severe for most of the offences for which it is inflicted. It would be a cruel punishment were the judge infallible, but with an erring human being for an irresponsible judge, the matter is far worse. Good seamen will no longer be deterred from entering the Royal Navy by the fear that the commission of a peccadillo or two may bring down the cat on their unlucky shoulders.

We shall meet the sailor on the sea many a time and again during the progress of this work, and see how hardly he earns his scanty reward in the midst of the awful dangers peculiar to the elements he dares. Shakespeare says that he is—

> "A man whom both the waters and the wind,
> In that vast tennis-court, hath made the ball
> For them to play on"—

that the men of all others who have made England what she is, have not altogether a bed of roses even on a well-conducted vessel, whilst they may lose their lives at any moment by shipwreck and sudden death. George Herbert says—

> "Praise the sea, but keep on land."

And while the present writer would be sorry to prevent any healthy, capable, adventurous boy from entering a noble profession, he recommends him to first study the literature of the sea to the best and fullest of his ability. Our succeeding chapter will exhibit some of the special perils which surround the sailor's life, whilst it will exemplify to some extent the qualities specially required and expected from him.

CHAPTER IV.

Perils of the Sailor's Life.

The Loss of the *Captain*—Six Hundred Souls swept into Eternity without a Warning—The Mansion and the Cottage alike Sufferers—Causes of the Disaster—Horrors of the Scene—Noble Captain Burgoyne—Narratives of Survivors—An almost Incredible Feat—Loss of the *Royal George*—A great Disaster caused by a Trifle—Nine Hundred Lost—A Child saved by a Sheep—The Portholes Upright—An involuntary Bath of Tar—Rafts of Corpses—The Vessel Blown up in 1839-40—The Loss of the *Vanguard*—Half a Million sunk in Fifty Minutes—Admirable Discipline on Board—All Saved—The Court Martial.

England, and indeed all Europe, long prior to 1870 had been busily constructing ironclads, and the daily journals teemed with descriptions of new forms and varieties of ships, armour, and armament, as well as of new and enormous guns, which, rightly directed, might sink them to the bottom. Among the more curious of the ironclads of that period, and the construction of which had led to any quantity of discussion, sometimes of a very angry kind, was the turret-ship—practically the sea-going "monitor"—*Captain*, which Captain Cowper Phipps Coles had at length been permitted to construct. Coles, who was an enthusiast of great scientific attainments, as well as a practical seaman, which too many of our experimentalists in this direction have not been, had distinguished himself in the Crimea, and had later made many improvements in rendering vessels shot-proof. His revolving turrets are, however, the inventions with which his name are more intimately connected, although he had much to do with the general construction of the *Captain*, and other ironclads of the period.

The *Captain* was a large double-screw armour-plated vessel, of 4,272 tons. Her armour in the most exposed parts was eight inches in thickness, ranging elsewhere downwards from seven to as low as three inches. She had two revolving turrets, the strongest and heaviest yet built, and carried six powerful guns. Among the peculiarities of her construction were, that she had only nine feet of "free-board"—*i.e.*, that was the height of her sides out of water. The forecastle and after-part of the vessel were raised above this, and they were connected with a light hurricane-deck. This, as we shall see, played an important part in the sad disaster we have to relate.

On the morning of the 8th of September, 1870, English readers, at their breakfast-tables, in railway carriages, and everywhere, were startled with the news that the *Captain* had foundered, with all hands, in the Bay of Biscay. Six hundred men had been swept into

eternity without a moment's warning. She had been in company with the squadron the night before, and, indeed, had been visited by the admiral, for purposes of inspection, the previous afternoon. The early part of the evening had been fine; later it had become what sailors call "dirty weather;" at midnight the wind rose fast, and soon culminated in a furious gale. At 2.15 in the morning of the 7th a heavy bank of clouds passed off, and the stars came out clear and bright, the moon then setting; but no vessel could be discerned where the *Captain* had been last observed. At daybreak the squadron was all in sight, but scattered. "*Only ten ships instead of eleven could be discerned, the 'Captain' being the missing one.*" Later, it appeared that seventeen of the men and the gunner had escaped, and landed at Corbucion, north of Cape Finisterre, on the afternoon of the 7th. *All the men who were saved belonged to the starboard watch;* or, in other words, none escaped except those on deck duty. Every man below, whether soundly sleeping after his day's work, or tossing sleeplessly in his berth, thinking of home and friends and present peril, or watching the engines, or feeding the furnaces, went down, without the faintest possibility of escaping his doom.

Think of this catastrophe, and what it involved! The families and friends of 600 men plunged into mourning, and the scores on scores of wives and children into poverty! In *one* street of Portsea, thirty wives were made widows by the occurrence.* The shock of the news killed one poor woman, then in weak health. Nor were the sad effects confined to the cottages of the poor. The noble-hearted captain of the vessel was a son of Field-Marshal Burgoyne; Captain Coles, her inventor; a son of Mr. Childers, the then First Lord of the Admiralty; the younger son of Lord Northbrook; the third son of Lord Herbert of Lea; and Lord Lewis Gordon, brother of the Marquis of Huntley, were among the victims of that terrible morning. The intelligence arrived during the excitement caused by the defeat and capitulation of Sedan, which, involving, as it did, the deposition of the Emperor and the fate of France, was naturally the great topic of discussion, but for the time it overshadowed even those great events, for it was a national calamity.

From the statements of survivors we now know that the watch had been called a few minutes past midnight; and as the men were going on deck to muster, the ship gave a terrible lurch to starboard, soon, however, righting herself on that occasion. Robert Hirst, a seaman, who afterwards gave some valuable testimony, was on the fore-castle. There was a very strong wind, and the ship was then only carrying her three top-sails, double reefs in each, and the foretop-mast stay-sail. The yards were braced sharp up, and the ship had little way upon her.† As the watch was mustered, he heard Captain Burgoyne give the order, "Let go the foretop-sail halyards!" followed by, "Let go fore and maintop-sail sheets!" By the time the men got to the top-sail sheets the ship was heeling over to starboard so much that others were being washed off the deck,

* Portsmouth, Devonport, Plymouth, and some Cornish seaport towns and villages were the chief sufferers. Plymouth had furnished more than one-third of the crew.

† None of the survivors appeared to know whether the *Captain's* screw was revolving at the time. Her steam was partially up. Had she steamed, there is every probability that the catastrophe would not have occurred.

THE "CAPTAIN" IN THE BAY OF BISCAY.

the ship lying down on her side, as she was gradually turning over and trembling through her whole frame with every blow which the short, jumping, vicious seas, now white with the squall, gave her.* The roar of the steam from her boilers was terrific, "outscreaming the noise of the storm," but not drowning the shrieks of the poor engineers and stokers which were heard by some of the survivors. The horrors of their situation can be imagined. The sea, breaking down the funnel, would soon, no doubt, extinguish the furnaces, but not until some of their contents had been dashed into the engine-room, with oceans of scalding water; the boilers themselves may, likely enough, have given way and burst also. Mercifully, it was not for long. Hirst, with two other men, rushed to the weather-forecastle netting and jumped overboard. It was hardly more than a few moments before they found themselves washed on to the bilge of the ship's bottom, for in that brief space of time the ship had turned completely over, and almost immediately went down. Hirst and his companions went down with the ship, but the next feeling of consciousness by the former was coming into contact with a floating spar, to which he tied himself with his black silk handkerchief. He was soon, however, washed from the spar, but got hold of the stern of the second launch, which was covered with canvas, and floating as it was stowed on board the ship. Other men were there, on the top of the canvas covering. Immediately after, they fell in with the steam-lifeboat pinnace, bottom-up, with Captain Burgoyne and several men clinging to it. Four men, of whom Mr. May,† the gunner, was one, jumped from off the bottom of the steam-pinnace to the launch. One account says that Captain Burgoyne incited them, by calling out, "Jump, men, jump!" but did not do it himself. The canvas was immediately cut away, and with the oars free, they attempted to pull up to the steam-pinnace to rescue the captain and others remaining there. This they found impossible to accomplish. As soon as they endeavoured to get the boat's head up to the sea to row her to windward to where the capsized boat was floating, their boat was swamped almost level to her

* One man testified that he had heard Captain Burgoyne's inquiries as to how much the ship was heeling over, the answers given being respectively, "18," "23," "25 degrees." The movement was never checked, and almost the moment after she had reached 25 degrees, she was keel-uppermost, and about to make that terrific plunge to the bottom.

† Mr. May's statement at the court-martial was in part as follows:—"Shortly after 0.15 a.m. on the 7th inst., being in my cabin, which was on the starboard or lee side of the ship, I was disturbed in my sleep by the noise of some marines. Feeling the ship uneasy, I dressed myself, and took the lantern to look at the guns in the turrets. . . . . It was but a very short time—from fifteen to twenty minutes—past midnight. I then went to the after-turret. The guns were all right. Immediately I got inside the turret I felt the ship heel steadily over, deeper and deeper, and a heavy sea struck her on the weather-side. *The water flowed into the turret* as I got through the pointing-hole on the top, and I found myself overboard; I struck out, and succeeded in reaching the steam-pinnace, which was bottom up, on which were Captain Burgoyne and five or six others. I saw the ship turn bottom-up, and sink stern first, the last I saw of her being her bows. The whole time of her turning over to sinking was but from five to ten minutes, if so much. Shortly after, I saw the launch drifting close to us who were on the pinnace; she was but a few yards from us; I called out, 'Jump, men—it is your last chance!' I jumped, and succeeded, with three others, in reaching her. I do not know for certain whether Captain Burgoyne jumped or not. I was under the impression he did; but the others in the launch do not think so. At any rate, he never reached her. When on the pinnace, a large ship, which I believe to have been the *Inconstant*, passed us fifty yards to leeward. We all hailed her; but, I suppose, the howling of the wind and sea prevented their hearing us."

thwarts, and two of the men were washed clean out of her. The pump was set going, and the boat bailed out with their caps, &c., as far as possible. They then made a second attempt to row the boat against the sea, which was as unsuccessful as before. Meantime, poor Burgoyne was still clinging to the pinnace, in "a storm of broken waters." When the launch was swept towards him once, one of the men on board offered to throw him an oar, which he declined, saying, nobly, "For God's sake, men, keep your oars: you will want them." This piece of self-abnegation probably cost him his life, for he went down shortly after, following "the six hundred" of his devoted crew into "the valley of death." The launch was beaten hither and thither; and a quarter of an hour after the *Captain* had capsized, sighted the lights of one of their own ships, which was driven by in the gale, its officers knowing nothing of the fate of these unfortunates, or their still more hapless companions. Mr. May, the gunner, took charge of the launch, and at daybreak they sighted Cape Finisterre, inside which they landed after twelve hours' hard work at the oars.

One man, when he found the vessel capsizing, crawled over the weather-netting on the port side, and performed an almost incredible feat. It is well told in his own laconic style:—"Felt ship heel over, and felt she would not right. Made for weather-hammock netting. She was then on her beam-ends. Got along her bottom by degrees, as she kept turning over, until I was where her keel would have been if she had one. The seas then washed me off. I saw a piece of wood about twenty yards off, and swam to it." In other words, he got over her side, and walked *up* to the bottom! While in the water, two poor drowning wretches caught hold of him, and literally tore off the legs of his trousers. He could not help them, and they sank for the last time.

Many and varied were the explanations given of the causes of this disaster. There had evidently been some uneasiness in regard to her stability in the water at one time, but she had sailed so well on previous trips, in the same stormy waters, that confidence had been restored in her. The belief, afterwards, among many authorities, was that she ought not to have carried sail at all.* This was the primary cause of the disaster, no doubt; and then, in all probability, when the force of the wind had heeled her over, a heavy sea struck her and completely capsized her—the water on and over her depressed side assisting by weighting her downwards. The side of the hurricane-deck acted, when the vessel was heeled over, as one vast sail, and, no doubt, had much to do with putting her on her beam-ends. The general impression of the survivors appeared to be that, with the ship heeling over, the pressure of a strong wind upon the under part of the hurricane-deck had a greater effect or leverage upon the hull, than the pressure of the wind on her top-sails. They were also nearly unanimous in their opinion that when the *Captain's* starboard side was well down in the water, with the weight of water on the turret-deck, and the pressure of the wind blowing from the port hand on the under surface of the hurricane-deck, and thus pushing the ship right over, she had no chance of righting herself again.

* The late Admiral Sherard Osborn, in a letter to the *Times*, said, "The desire of our Admiralty to make all their fighting-ships cruise under canvas, as well as steam, induced poor Captain Coles to go a step further, and to make a ship with a low free board a sailing-ship." This was against his judgment, however.

It is to be remarked that long after the *Captain* had sunk, the admiral of the squadron thought that he saw her, although it was very evident afterwards that it must have been some other vessel. In his despatch to the Admiralty,* which very plainly indicated that he had some anxiety in regard to her stability in bad weather, he described her appearance and behaviour up till 1.30 a.m.—more than an hour after her final exit to the depths below. In the days of superstitious belief, so common among sailors, a thrilling story of her image haunting the spot would surely have been built on this foundation.

In the old fighting-days of the Royal Navy, when success followed success, and prize after prize rewarded the daring and enterprise of its commanders, they did not think very much of the loss of a vessel more or less, but took the lesser evils with the greater goods. The seamanship was wonderful, but it was very often utterly reckless. A captain trained in the school of Nelson and Cochrane would stop at nothing. The country, accustomed to great naval battles, enriched by the spoils of the enemy—who furnished some of the finest vessels in our fleet—was not much affected by the loss of a ship, and the Admiralty was inclined to deal leniently with a spirited commander who had met with an accident. But then an accident in those days did not mean the loss of half a million pounds or so. The cost of a large ironclad of to-day would have built a small wooden fleet of those days.

The loss of the *Captain* irresistibly brings to memory another great loss to the Royal Navy, which occurred nearly ninety years before, and by which 900 lives were in a moment swept into eternity. It proved too plainly that "wooden walls" might capsize as readily as the "crankiest" ironclad. The reader will immediately guess that we refer to the loss of the *Royal George*, which took place at Spithead, on the 28th of August, 1782, in calm weather, but still under circumstances which, to a very great extent, explain how the *Captain*—at the best, a vessel of doubtful stability—capsized in the stormy waters of Biscay. The *Royal George* was, at the time, the oldest first-rate in the service, having been put into commission in 1755. She carried 108 guns, and was considered a staunch ship, and a good sailer. Anson, Boscawen, Rodney, Howe, and Hawke had all repeatedly commanded in her.

From what small causes may great and lamentable disasters arise! "During the washing of her decks, on the 28th, the carpenter discovered that the pipe which admitted the water to cleanse and sweeten the ship, and which was about three feet under the water, was out of repair—that it was necessary to replace it with a new one, and to heel her on one side for that purpose." The guns on the port side of the ship were run out of the port-holes as far as they would go, and those from the starboard side were drawn in and secured amidships. This brought her porthole-sills on the lower side nearly even

* Admiral Milne, in his despatch dated from H.M.S. *Lord Warden*, off Finisterre, September 7th, 1870, stated that, at a little before 1 a.m., the *Captain* was astern of his ship, "apparently closing under steam." The signal "open order" was made, and at once answered; and at 1.15 a.m. she was on the *Lord Warden's* (the flag-ship's) lee quarter, about six points abaft the beam. From that time until about 1.30 a.m. I constantly watched the ship. . . . She was heeling over a good deal to starboard," &c. We have seen that she went down shortly after the midnight watch had been called.

with the water. "At about 9 o'clock a.m., or rather before," stated one of the survivors,* "we had just finished our breakfast, and the last lighter, with rum on board, had come alongside; this vessel was a sloop of about fifty tons, and belonged to three brothers, who used her to carry things on board the men-of-war. She was lashed to the larboard side of the *Royal George*, and we were piped to clear the lighter and get the rum out of her, and stow it in the hold. . . . At first, no danger was apprehended from the ship being on one side, although the water kept dashing in at the portholes at every wave; and there being mice in the lower part of the ship, which were disturbed by the water which dashed in, they were hunted in the water by the men, and there had been a rare game going on." Their play was soon to be rudely stopped. The carpenter, perceiving that the ship was in great danger, went twice on the deck to ask the lieutenant of the watch to order the ship to be righted; the first time the latter barely answered him, and the second replied, savagely, "If you can manage the ship better than I can, you had better take the command." In a very short time, he began himself to see the danger, and ordered the drummer to beat to right ship. It was too late—the ship was beginning to sink; a sudden breeze springing upheeled her still more; the guns, shot, and heavy articles generally, and a large part of the men on board, fell irresistibly to the lower side; and the water, forcing itself in at every port, weighed the vessel down still more. She fell on her broadside, with her masts nearly flat on the water, and sank to the bottom immediately. "The officers, in their confusion, made no signal of distress, nor, indeed, could any assistance have availed if they had, after her lower-deck ports were in the water, which forced itself in at every port with fearful velocity." In going down, the main-yard of the *Royal George* caught the boom of the rum-lighter and sank her, drowning some of those on board.

At this terrible moment there were nearly 1,200 persons† on board. Deducting the larger proportion of the watch on deck, about 230, who were mostly saved by running up the rigging, and afterwards taken off by the boats sent for their rescue, and, perhaps, seventy others who managed to scramble out of the ports, &c., the whole of the remainder perished. Admiral Kempenfelt, whose flag-ship it was, and who was then writing in his cabin, and had just before been shaved by the barber, went down with her. The first-captain tried to acquaint him that the ship was sinking, but the heeling over of the ship had so jammed the doors of the cabin that they could not be opened. One young man was saved, as the vessel filled, by the force of the water rushing upwards, and sweeping him bodily before it through a hatchway. In a few seconds, he found himself floating on the surface of the sea, where he was, later, picked up by a boat. A little child was almost miraculously preserved by a sheep, which swam some time, and with which he had doubtless been playing on deck. He held by the fleece till rescued by a gentleman in a wherry. His father and mother were both drowned, and the poor little fellow did not

* A "Narrative of the Loss of the *Royal George*," published at Portsea, and written by a gentleman who was on the island at the time.

† The exact number was never known. There were 250 women on board, a large proportion of whom were the wives and relatives of the sailors; and there were also a number of children, most of whom belonged to Portsmouth. Besides these, there were a number of Jew and other traders on board.

even know their names; all that he knew was that his own name was Jack. His preserver provided for him.

One of the survivors,* who got through a porthole, looked back and saw the opening "as full of heads as it could cram, all trying to get out. I caught," said he,

THE WRECK OF THE "ROYAL GEORGE."

"hold of the best bower-anchor, which was just above me, to prevent falling back again into the porthole, and seizing hold of a woman who was trying to get out of the same porthole, I dragged her out." The same writer says that he saw "all the heads drop back again in at the porthole, for the ship had got so much on her larboard side *that the starboard portholes were as upright as if the men had tried to get out of the top of a*

* Mr. Ingram, whose narrative, printed in the little work before quoted, bears all the impress of truth.

chimney, with nothing for their legs and feet to act upon." The sinking of the vessel drew him down to the bottom, but he was enabled afterwards to rise to the surface and swim to one of the great blocks of the ship which had floated off. At the time the ship was sinking, an open barrel of tar stood on deck. When he rose, it was floating on the water like fat, and he got into the middle of it, coming out as black as a negro minstrel!

When this man had got on the block he observed the admiral's baker in the shrouds of the mizentop-mast, which were above water not far off; and directly after, the poor woman whom he had pulled out of the porthole came rolling by. He called out to the baker to reach out his arm and catch her, which was done. She hung, quite insensible, for some time by her chin over one of the ratlines of the shrouds, but a surf soon washed her off again. She was again rescued shortly after, and life was not extinct; she recovered her senses when taken on board our old friend the *Victory*, then lying with other large ships near the *Royal George*. The captain of the latter was saved, but the poor carpenter, who did his best to save the ship, was drowned.

In a few days after the *Royal George* sank, bodies would come up, thirty or forty at a time. A corpse would rise "so suddenly as to frighten any one." The watermen, there is no doubt, made a good thing of it; they took from the bodies of the men their buckles, money, and watches, and then made fast a rope to their heels and towed them to land." The writer of the narrative from which this account is mainly derived says that he "saw them towed into Portsmouth Harbour, in their mutilated condition, in the same manner as rafts of floating timber, and promiscuously (for particularity was scarcely possible) put into carts, which conveyed them to their final sleeping-place, in an excavation prepared for them in Kingstown churchyard, the burial-place belonging to the parish of Portsea." Many bodies were washed ashore on the Isle of Wight.

Futile attempts were made the following year to raise the wreck, but it was not till 1839–40 that Colonel Pasley proposed, and successfully carried out, the operations for its removal. Wrought-iron cylinders, some of the larger of which contained over a ton each of gunpowder, were lowered and fired by electricity, and the vessel was, by degrees, blown up. Many of the guns, the capstans, and other valuable parts of the wreck were recovered by the divers, and the timbers formed then, and since, a perfect godsend to some of the inhabitants of Portsmouth, who manufactured them into various forms of "relics" of the *Royal George*. It is said that the sale of these has been so enormous that if they could be collected and stuck together they would form several vessels of the size of the fine old first-rate, large as she was! But something similar has been said of the "wood of the true cross," and, no doubt, is more than equally libellous.

It is said, by those who descended to the wreck, that its appearance was most beautiful, when seen from about a fathom above the deck. It was covered with seaweeds, shells, starfish, and anemones, while from and around its ports and openings the fish, large and small, swam and played—darting, flashing, and sparkling in the clear green water.

There is probably no reasonable being in or out of the navy who does not believe that the ironclad is the war-vessel of the immediate future. But that a woeful amount of

uncertainty, as thick as the fog in which the *Vanguard* went down, envelops the subject in many ways, is most certain. The circumstances connected with that great disaster are still in the memory of the public, and were simple and distinct enough. During the last week of August, 1875, the reserve squadron of the Channel Fleet, comprising the *Warrior, Achilles, Hector, Iron Duke,* and *Vanguard,* with Vice-Admiral Sir W. Tarleton's yacht *Hawk,* had been stationed at Kingstown. At half-past ten on the morning of the 1st of September they got into line for the purpose of proceeding to Queenstown, Cork. Off the Irish lightship, which floats at sea, six miles off Kingstown, the *Achilles* hoisted her ensign to say farewell—her destination being Liverpool. The sea was moderate, but a fog came on and increased in density every moment. Half an hour after noon, the "look-out" could not distinguish fifty yards ahead, and the officers on the bridge could not see the bowsprit. The ships had been proceeding at the rate of twelve or fourteen knots, but their speed had been reduced when the fog came on, and they were running at not more than half the former speed. The *Vanguard* watch reported a sail ahead, and the helm was put hard aport to prevent running it down. The *Iron Duke* was then following close in the wake of the *Vanguard,* and the action of the latter simply brought them closer, and presented a broadside to the former, which, unaware of any change, had continued her course. The commander of the *Iron Duke,* Captain Hickley, who was on the bridge at the time, saw the spectre form of the *Vanguard* through the fog, and ordered his engines to be reversed, but it was too late. The ram of the *Iron Duke* struck the *Vanguard* below the armour-plates, on the port side, abreast of the engine-room. The rent made was very large — amounting, as the divers afterwards found, to four feet in width—and the water poured into the hold in torrents. It might be only a matter of minutes before she should go down.*

The vessel was doomed; a very brief examination proved that: nothing remained but to save the lives of those on board. Captain Dawkins gave the necessary orders with a coolness which did not represent, doubtless, the conflicting feelings within his breast. The officers ably seconded him, and the crew behaved magnificently. One of the mechanics went below in the engine-room to let off the steam, and so prevent an explosion, at the imminent risk of his life. The water rose quickly in the after-part, and rushed into the engine and boiler rooms, eventually finding its way into the provision-room flat, through imperfectly fastened (so-called) "water-tight" doors, and gradually over the whole ship. There was no time to be lost. Captain Dawkins called out to his men

* The sentence of the court-martial blamed Captain Dawkins, his navigating-lieutenant, and the ship's carpenter, for not endeavouring to stop "the breach from the outside with the means at their command, such as hammocks and sails;" for not having "ordered Captain Hickley, of H.M.S. *Iron Duke,* to tow H.M.S. *Vanguard* into shallow water," such being available at a short distance; the chief-engineer for not "applying the means at his command to relieve the ship of water; the navigating-lieutenant "for neglect of duty in not pointing out to his captain that there was shoaler water within a short distance;" and the carpenter in "not taking immediate steps for sounding the compartments, and reporting from time to time the progress of the water." A lamentable showing, truly, if all these points were neglected! So far as the commander is concerned, his successful efforts to save the lives of all on board (not knowing when his ship might go down, and with the remembrance of the sudden loss of the *Captain* full in view) speak much in his favour, and in extenuation of much that would otherwise appear culpable neglect.

THE LOSS OF THE "KENT."

that if they preserved order all would be saved. The men stood as at an inspection—not one moved until ordered to do so. The boats of both ships were lowered. While the launching was going on, the swell of the tide caused a lifeboat to surge against the hull, and one of the crew had his finger crushed. This was absolutely the only casualty. In twenty minutes the whole of the men were transferred to the *Iron Duke*, no single breach of discipline occurring beyond the understandable request of a sailor once in awhile to be allowed to make one effort to secure some keepsake or article of special value to himself. But the order was stern: "Boys, come instantly." As "four

THE "VANGUARD" AS SHE APPEARED AT LOW WATER.

bells" (2 p.m.) was striking, the last man having been received on the *Iron Duke*, the doomed vessel whirled round two or three times, and then sank in deep water.*

It is obvious, then, that the discipline and courage of the service had not deteriorated from that always expected in the good old days. Captain Dawkins was the last man to leave his sinking ship, and his officers one and all behaved in the same spirit. They endeavoured to quiet and reassure the men—pointing out to them the fatal consequences of confusion. Captain Dawkins may or may not have been rightly censured for his seamanship; there can be no doubt that he performed his duty nobly in these systematic efforts to save his crew. However much was lost to the nation, no mother had to mourn the loss of her sailor-boy; no wife had been made a widow, no child an orphan; five hundred men had been saved to their country.

* Nineteen fathoms, or 114 feet. Her main-topmast-head was afterwards twenty-four feet out of water.

One of the officers of the *Vanguard*, in a letter to a friend, graphically described the scene at and after the collision. After having lunched, he entered the ward-room, where he encountered the surgeon, Dr. Fisher, who was reading a newspaper. "After remarking on the thickness of the fog, Fisher went to look out of one of the ports, and immediately cried out, 'God help us! here is a ship right into us!' We rushed on deck, and at that moment the *Iron Duke* struck us with fearful force, spars and blocks falling about, and causing great danger to us on deck. The *Iron Duke* then dropped astern, and was lost sight of in the fog. The water came into the engine-room in tons, stopping the engines, putting the fires out, and nearly drowning the engineers and stokers. . . . The ship was now reported sinking fast, although all the water-tight compartments had been closed. But in consequence of the shock, some of the water-tight doors leaked fearfully, letting water into the other parts of the ship. Minute-guns were being fired, and the boats were got out. . . . At this moment the *Iron Duke* appeared, lowering her boats and sending them as fast as possible. The sight of her cheered us up, as we had been frightened that she would not find us in the fog, in spite of the guns. The scene on deck can only be realised by those who have witnessed a similar calamity. The booming of the minute-guns, the noise of the immense volume of steam rushing out of the escape-funnel, and the orders of the captain, were strangely mingled, while a voice from a boat reported how fast she was sinking."

When the vessel went down, the deck of the *Iron Duke* was crowded with men watching the *finale* of the catastrophe. When she was about to sink, she heeled gradually over until the whole of her enormous size to the keel was above water. Then she gradually sank, righting herself as she went down, stern first, the water being blown from hawse-holes in huge spouts by the force of the air rushing out of the ship. She then disappeared from view. The men were much saddened to see their home go down, carrying everything they possessed. They had been paid that morning, and a large number of them lost their little accumulated earnings. These were, of course, afterwards allowed them by the Admiralty.

The *Vanguard* and the *Iron Duke* were two of a class of broadside ironclads, built with a view to general and not special utility in warfare. Their thickest armour was eight inches, a mere strip, 100 feet long by three high, and much of the visible part of them was unarmoured altogether, while below it varied from six inches to as low as three-eighths of an inch. It was only the latter thickness where the point of the *Iron Duke's* ram entered. Their advocates boasted that they could pass through the Suez Canal, and go anywhere.

Every reader will remember the stormy discussion which ensued, in which not merely the ironclad question, but the court-martial which followed—and the Admiralty decision which followed that—were severely handled. Nor could there be much wonder at all this, for a vessel which had cost the nation over a quarter of a million of pounds sterling, with equipment and property on board which had cost as much more,* was lost for ever.

* The total estimated loss was £550,000.

It was in vain that the then First Lord of the Admiralty * told us, in somewhat flippant tones, that we ought to be rather satisfied than otherwise with the occurrence. It was not altogether satisfactory to learn from Mr. Reed, the principal designer of both ships, that ironclads were in more danger in times of peace than in times of war.† In the former they were residences for several hundred sailors, and many of the water-tight doors could not be kept closed without inconvenience; in the latter they were fortresses, when the doors would be closed for safety. The court-martial, constituted of leading naval authorities and officers, imputed blame for the high rate of speed sustained in a fog; the public naturally inquired why a high rate of speed was necessary at all at the time, but their lordships declined to consider this as in any way contributing to the disaster. The Court expressed its opinion pretty strongly upon the conduct of the officers of the *Iron Duke*, which did the mischief, and also indirectly blamed the admiral in command of the squadron, but the Admiralty could find nothing wrong in either case, simply visiting their wrath on the unfortunate lieutenant on deck at the time. So, to make a long and very unpleasant story short, the loss of the *Vanguard* brought about a considerable loss of faith in some of our legally constituted naval authorities.‡

CHAPTER V.

Perils of the Sailor's Life (*continued*).

The Value of Discipline—The Loss of the *Kent*—Fire on Board—The Ship Waterlogged—Death in Two Forms—A Sail in Sight—Transference of Six Hundred Passengers to a small Brig—Splendid Discipline of the Soldiers—Imperturbable Coolness of the Captain—Loss of the *Birkenhead*—Literally Broken in Two—Noble Conduct of the Military—A contrary Example—Wreck of the *Medusa*—Run on a Sand-bank—Panic on Board—Raft constructed—Insubordination and Selfishness—One Hundred and Fifty Souls Abandoned—Drunkenness and Mutiny on the Raft—Riots and Murders—Reduced to Thirty Persons—The stronger part Massacre the others—Fifteen Left—Rescued at Last—Another Contrast—Wreck of the *Alceste*—Admirable Conduct of the Crew—The Ironclad Movement—The Battle of the Guns.

It is impossible to read the account of any great disaster at sea, without being strongly impressed with the enormous value of maintaining in the hour of peril the same strict discipline which, under ordinary circumstances, is the rule of a vessel. Few more striking

* Mr. Ward Hunt said publicly that, "If the *Iron Duke* had sent an enemy's ship to the bottom, we should have called her one of the most formidable ships of war in the world, and all that she has done is actually what she was intended to do, *except, of course, that the ship she struck was unfortunately our own property, and not that of the enemy.*"

† Mr. Reed wrote to the *Times* to the effect that there would, undoubtedly, be a "greater measure of safety during a naval engagement than on ordinary occasions," and explained that "the ruling consideration which has been aimed at in these ships has been so to divide them into compartments, that, when all the water-tight doors and valves are arranged as they would be on going into action, the breach by a ram of one compartment only should not suffice to sink the ship."

‡ Sir Henry James, Attorney-General to the previous Government, spoke publicly on the subject in the plainest terms. He said:—"One would have thought that if there were a court-martial on the vessel which is lost, the officers of the vessel which caused that loss would not go scot free." The Admiralty was blamed for not having sent the decision of the Court back to it for reconsideration, instead of which they broke a rule of naval etiquette, and seemed anxious to quash inquiry

examples of this are to be found, than in the story of the loss of the *Kent*, which we are now about to relate. The disaster of the *Medusa*, which we shall record later, in which complete anarchy and disregard of discipline, aggravated a hundredfold the horrors of the situation, only teaches the same lesson from the opposite point of view. Though the most independent people on the earth, all Englishmen worthy of the name appreciate the value of proper subordination and obedience to those who have rightful authority to command. This was almost the only gratifying feature connected with the loss of the *Vanguard*, and the safe and rapid transference of the crew to the *Iron Duke* was due to it. But the circumstances of the case were as nought to some that have preceded it, where the difficulties and risks were infinitely greater and the reward much less certain. The *Kent* was a fine troop-ship, of 1,530 tons, bound from England for Bengal and China. She had on board 344 soldiers, forty-three women, and sixty-six children. The officers, private passengers, and crew brought the total number on board to 640. After leaving the Downs, on the 19th of February, 1825, she encountered terrible weather, culminating in a gale on the 1st of March, which obliged them almost to sail under bare poles. The narrative* by Sir Duncan MacGregor, one of the passengers, created an immense sensation at its first appearance, and was translated into almost every language of the civilised world. He states that the rolling of the ship, which was vastly increased by a dead weight of some hundred tons of shot and shells that formed a part of its lading, became so great about half-past eleven or twelve o'clock at night, that the main-chains were thrown by every lurch considerably under water; and the best cleated articles of furniture in the cabin and the cuddy were dashed about in all directions.

It was a little before this period that one of the officers of the ship, with the well-meant intention of ascertaining that all was fast below, descended with a lantern. He discovered one of the spirit-casks adrift, and sent two or three sailors for some billets of wood to secure it. While they were absent, he unfortunately dropped the lamp, and letting go his hold of the cask in his eagerness to recover it, the former suddenly stove, and the spirits communicating with the light, the whole deck at that part was speedily in a blaze. The fire spread rapidly, and all their efforts at extinguishing it were vain, although bucket after bucket of water, wet sails and hammocks, were immediately applied. The smoke began to ascend the hatchway, and although every effort was made to keep the passengers in ignorance, the terrible news soon spread that the ship was on fire. As long as the devouring element appeared to be confined to the spot where the fire originated, and which they were assured was surrounded on all sides with water-casks, there was some hope that it might be subdued; but soon the light-blue vapour that at first arose was succeeded by volumes of thick, dingy smoke, which ascended through all the hatchways and rolled over the ship. A thorough panic took possession of most on board.

The deck was covered with six hundred men, women, and children, many almost frantic with excitement—wives seeking their husbands, children their mothers; strong men appearing as though their reason was overthrown, weak men maudlin and weeping; many good people on their knees in earnest prayer. Some of the older and more stout-hearted soldiers and

* "The loss of the *Kent*, East Indiaman," by Lieut.-General Sir Duncan MacGregor, K.C.B.

sailors sullenly took their seats directly over the powder-magazine, expecting momentarily that it would explode and put them out of their misery. A strong pitchy smell suddenly wafted over the ship. "The flames have reached the cable-tier!" exclaimed one; and it was found to be too true. The fire had now extended so far, that there was but one course to pursue: the lower decks must be swamped. Captain Cobb, the commander of the *Kent*, was a man of action, and, with an ability and decision that seemed only to increase with the imminence of the danger, ordered the lower decks to be scuttled, the coverings of the hatches removed, and the lower ports opened to the free admission of the waves. His instructions were speedily obeyed, the soldiers aiding the crew. The fury of the flames was, of course, checked; but several sick soldiers and children, and one woman, unable to gain the upper deck, were drowned, and others suffocated. As the risk of explosion somewhat diminished, a new horror arose. The ship became water-logged, and presented indications of settling down. Death in two forms stared them in the face.

No sail had been seen for many days, the vessel being somewhat out of the regular course. But, although it seemed hopeless, a man was sent up to the foretop to scan the horizon. How many anxious eyes were turned up to him, how many anxious hearts beat at that moment, can well be understood. The sailor threw his eyes rapidly over the waste of howling waters, and instantly waved his hat, exclaiming, in a voice hoarse with emotion, "A sail on the lee bow!" Flags of distress were soon hoisted, minute-guns fired, and an attempt made to bear down on the welcome stranger, which for some time did not notice them. But at last it seemed probable, by her slackening sail and altering her course, that the *Kent* had been seen. Hope revived on board; but there were still three painful problems to be solved. The vessel in the distance was but a small brig: could she take over six hundred persons on board? Could they be transferred during a terrible gale and heavy sea, likely enough to swamp all the boats? Might not the *Kent* either blow up or speedily founder, before even one soul were saved?

The vessel proved to be the *Cambria*, a brig bound to Vera Cruz, with a number of miners on board. For fifteen minutes it had been very doubtful to all on the *Kent* whether their signals of distress—and the smoke issuing from the hatchways formed no small item among them—were seen, or the minute-guns heard. But at length it became obvious that the brig was making for them, and preparations were made to clear and lower the boats of the East Indiaman. "Although," says Sir Duncan MacGregor, "it was impossible, and would have been improper, to repress the rising hopes that were pretty generally diffused amongst us by the unexpected sight of the *Cambria*, yet I confess, that when I reflected on the long period our ship had been already burning—on the tremendous sea that was running—on the extreme smallness of the brig, and the immense number of human beings to be saved—I could only venture to hope that a few might be spared." When the military officers were consulting together, as the brig was approaching, on the requisite preparations for getting out the boats, and other necessary courses of action, one of the officers asked Major MacGregor in what order it was intended the officers should move off, to which he replied, "Of course, in funeral order," which injunction was instantly confirmed by Colonel Fearon, who said, "Most undoubtedly—the juniors first; but see that any man is cut down who presumes

to enter the boats before the means of escape are presented to the women and children." To prevent any rush of troops or sailors to the boats, the officers were stationed near them with drawn swords. But, to do the soldiers and seamen justice, it was little needed; the former particularly keeping perfect order, and assisting to save the ladies and children and private passengers generally. Some of the women and children were placed in the first boat, which was immediately lowered into a sea so tempestuous that there was great danger that it would be swamped, while the lowering-tackle not being properly disengaged at the stern, there was a great prospect for a few moments that its living freight would be upset in the water. A sailor, however, succeeded in cutting the ropes with an axe, and the first boat got off safely.

The *Cambria* had been intentionally lain at some distance from the *Kent*, lest she should be involved in her explosion, or exposed to the fire from the guns, which, being all shotted, went off as the flames reached them. The men had a considerable distance to row, and the success of the first experiment was naturally looked upon as the measure of their future hopes. The movements of this boat were watched with intense anxiety by all on board. "The better to balance the boat in the raging sea through which it had to pass, and to enable the seamen to ply their oars, the women and children were stowed promiscuously under the seats, and consequently exposed to the risk of being drowned by the continual dashing of the spray over their heads, which so filled the boat during the passage that before their arrival at the brig the poor females were sitting up to their waists in water, and their children kept with the greatest difficulty above it." Happily, at the expiration of twenty minutes, the cutter was seen alongside their ark of refuge. The next difficulty was to get the ladies and children on board the *Cambria*, for the sea was running high, and there was danger of the boat being swamped or stove against the side of the brig. The children were almost thrown on board, while the women had to spring towards the many friendly arms extended from the vessel, when the waves lifted the boat momentarily in the right position. However, all were safely transferred to the brig without serious mishap.

It became impossible for the boats, after the first trip, to come alongside the *Kent*, and a plan was adopted for lowering the women and children from the stern by tying them two and two together. The heaving of the vessel, and the heavy sea raising the boat one instant and dropping it the next, rendered this somewhat perilous. Many of the poor women were plunged several times in the water before they succeeded in landing safely in the boat, and many young children died from the effects—"the same violent means which only reduced the parents to a state of exhaustion or insensibility," having entirely quenched the vital spark in their feeble frames. One fine fellow, a soldier, who had neither wife nor child of his own, but who showed great solicitude for the safety of others, insisted on having three children lashed to him, with whom he plunged into the water to reach the boat more quickly. He swam well, but could not get near the boat; and when he was eventually drawn on board again, two of the children were dead. One man fell down the hatchway into the flames; another had his back broken, and was observed, quite doubled, falling overboard; a third fell between the boat and brig, and his head was literally crushed to pieces; others were lost in their attempts to ascend the

sides of the *Cambria*; and others, again, were drowned in their hurry to get on board the boats.

One of the sailors, who had, with many others, taken his post over the magazine, at last cried out, almost in ill-humour, "Well! if she won't blow up, I'll see if I can't get away from her." He was saved—and must have felt quite disappointed. One of the three boats, swamped or stove during the day, had on board a number of men who had been robbing the cabins during the confusion on board. "It is suspected that one or two of those who went down, must have sunk beneath the weight of their spoils."

As there was so much doubt as to how soon the vessel would explode or go down, while the process of transference between the vessels occupied three-quarters of an hour each trip, and other delays were caused by timid passengers and ladies who were naturally loath to be separated from their husbands, they determined on a quicker mode of placing them in the boat. A rope was suspended from the end of the spanker-boom, along the slippery top of which the passengers had either to walk, crawl, or be carried. The reader need not be told that this great boom or spar stretches out from the mizen-mast far over the stern in a vessel the size of the *Kent*. On ordinary occasions, in quiet weather, it would be fifteen or twenty feet above the water, but with the vessel pitching and tossing during the continuous storm, it was raised often as much as forty feet in the air. It will be seen that, under these circumstances, with the boat at the stern now swept to some distance in the hollow of a wave, and now raised high on its crest, the lowering of oneself by the rope, to drop at the right moment, was a perilous operation. It was a common thing for strong men to reach the boat in a state of utter exhaustion, having been several times immersed in the waves and half drowned. But there were many strong and willing hands among the soldiers and sailors ready to help the weak and fearful ones, and the transference went on with fair rapidity, though with every now and again some sad casualty to record. The coolness and determination of the officers, military and marine, the good order and subordination of most of the troops, and the bravery of many in risking their lives for others, seems at this time to have restored some little confidence among the timid and shrinking on board. A little later, and the declining rays and fiery glow on the waves indicated that the sun was setting. One can well understand the feeling of many on board as they witnessed its disappearance and the approach of darkness. Were their lives also to set in outer gloom—the ocean to be that night their grave?

Late at night Major MacGregor went down to his cabin in search of a blanket to shelter him from the increasing cold. "The scene of desolation that there presented itself was melancholy in the extreme. The place which, only a few short hours before, had been the scene of kindly intercourse and of social gaiety, was now entirely deserted, save by a few miserable wretches who were either stretched in irrecoverable intoxication on the floor, or prowling about, like beasts of prey, in search of plunder. The sofas, drawers, and other articles of furniture, the due arrangement of which had cost so much thought and pains, were now broken into a thousand pieces, and scattered in confusion around. . . . Some of the geese and other poultry, escaped from their confinement, were cackling in the cuddy; while a solitary pig, wandering from its sty in the forecastle, was ranging at large in undisturbed possession of the Brussels carpet."

It is highly to the credit of the officers, more especially to those who had deck-cabins, from which it would be easy to remove many portable articles, and even trunks and boxes, that they entirely devoted their time and energies to saving life. They left the ship simply with the clothes they stood in, and were the last to leave it, except, of course, where subordinate officers were detailed to look after portions of the troops. Captain Cobb, in his resolution to be the last to leave the ship, tried all he could to urge the few remaining persons on board to drop on the ropes and save themselves. But finding all

FALMOUTH HARBOUR.

his entreaties fruitless, and hearing the guns successively explode in the hold, into which they had fallen, he at length, after doing all in his power to save them, got himself into the boat by "laying hold of the topping-lift, or rope that connects the driver-boom with the mizen-top, thereby getting over the heads of the infatuated men who occupied the boom, unable to go either backward or forward, and ultimately dropping himself into the water." One of the boats persevered in keeping its station under the *Kent's* stern, until the flames were bursting out of the cabin windows. The larger part of the poor wretches left on board were saved: when the vessel exploded, they sought shelter in the chains, where they stood till the masts fell overboard, to which they then clung for some hours. Ultimately, they were rescued by Captain Bibbey, of the *Caroline*, a vessel bound from Egypt to Liverpool,

THE LOSS OF THE "BIRKENHEAD."

who happened to see the explosion at a great distance, and instantly made all sail in the direction whence it proceeded, afterwards cruising about for some time to pick up any survivors.

After the arrival of the last boat at the *Cambria*, "the flames, which had spread along the upper deck and poop, ascended with the rapidity of lightning to the masts and rigging, forming one general conflagration, that illumined the heavens to an immense distance, and was strongly reflected on several objects on board the brig. The flags of distress, hoisted in the morning, were seen for a considerable time waving amid the flames, until the masts to which they were suspended successively fell, like stately steeples, over the ship's side." At last, about half-past one o'clock in the morning, the devouring element having communicated to the magazine, the explosion was seen, and the blazing fragments of the once magnificent *Kent* were instantly hurled, like so many rockets, high into the air; leaving, in the comparative darkness that succeeded, "the deathful scene of that disastrous day floating before the mind like some feverish dream."

The scene on board the brig beggared description. The captain, who bore the honoured name of Cook, and his crew of eight, did all that was in their power to alleviate the miseries of the six hundred persons added to their number; while they carried sail, even to the extent of danger, in order to make nine or ten knots to the nearest port. The Cornish miners and Yorkshire smelters on board gave up their beds and clothes and stores to the passengers; and it was extremely fortunate that the brig was on her outward voyage, for, had she been returning, she would not, in all probability, have had provisions enough to feed six hundred persons for a single day. But at the best their condition was miserable. In the cabin, intended for eight or ten, eighty were packed, many nearly in a nude condition, and many of the poor women not having space to lie down.

The gale increased; but still they crowded all sail—even at the risk of carrying away the masts—and at length the welcome cry of "Land ahead!" was reported from mouth to mouth. They were off the Scilly lights, and speedily afterwards reached Falmouth, where the inhabitants vied with each other in providing clothing and food and money for all who needed them.

The total loss from the *Kent* was eighty-one souls; namely, fifty-four soldiers, one woman, twenty children, one seaman, and five boys of the crew. How much greater might it not have been but for the imperturbable coolness, the commanding abilities, and the persevering and prompt action of Captain Cobb, and the admirable discipline and subordination of the troops!

Another remarkable instance of the same thing is to be found in the case of the *Birkenhead*, where there were desperate odds against any one surviving. The ship was a war-steamer, conveying troops from St. Simon's Bay to Algoa Bay, Cape Colony, and had, with crew, a total complement of 638 souls on board. She struck on a reef, when steaming at the rate of eight and a half knots, and almost immediately became a total wreck. The rock penetrated her bottom, just aft of the fore-mast, and the rush of water was so great that most of the men on the lower troop-deck were drowned in their hammocks. The commanding officer, Major Seton, called his subordinate officers about him, and impressed upon them the necessity of preserving order and perfect discipline among the men, and of assisting the commander of the ship

in everything possible. Sixty soldiers were immediately detailed for the pumps, in three reliefs; sixty more to hold on the tackles of the paddle-box boats, and the remainder were brought on the poop, so as to ease the fore-part of the ship, which was rolling heavily. The commander of the ship ordered the horses to be pitched out of the first-gangway, and the cutter to be got ready for the women and children, who were safely put on board. Just after they were out of the ship, the entire bow broke off at the fore-mast, and the funnel went over the side, carrying away the starboard paddle-box and boat. The other paddle-box boat capsized when being lowered, and their largest boat, in the centre of the ship, could not be got at, so encumbered was it. Five minutes later, the vessel actually "*broke in two*," literally realising Falconer's lines :—

"Ah, Heaven! Behold, her crashing ribs divide!
She loosens, parts, and spreads in ruin o'er the tide."

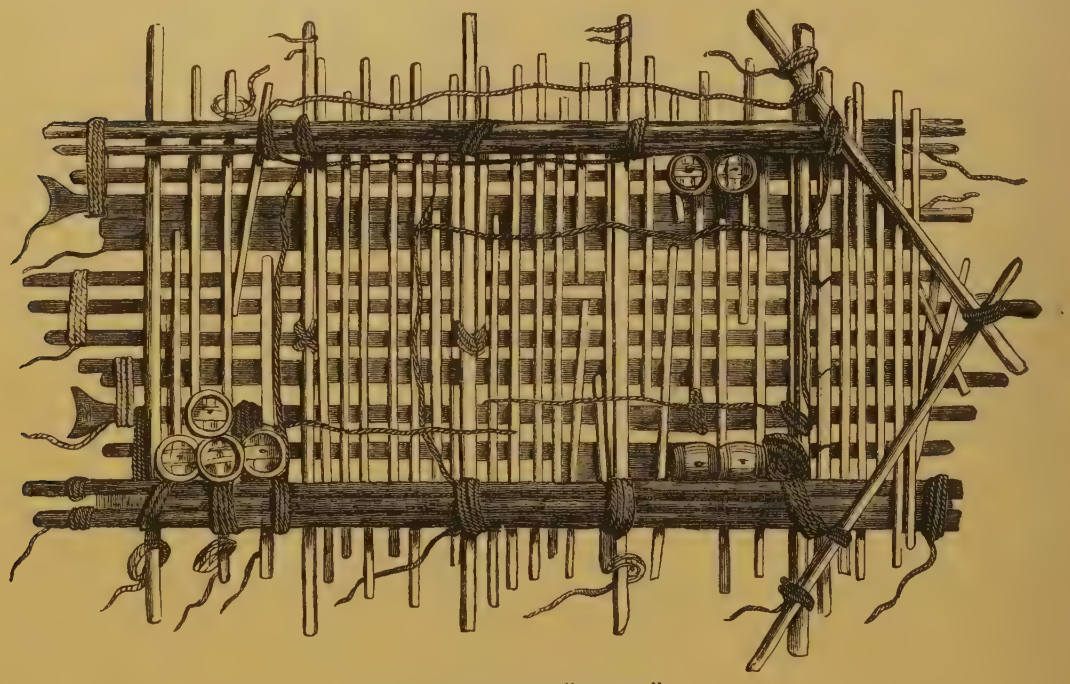
"She parted just abaft the engine-room, and the stern part immediately filled and went down. A few men jumped off just before she did so; but the greater number remained to the last, and so did every officer belonging to the troops." A number of the soldiers were crushed to death when the funnel fell, and few of those at the pumps could reach the deck before the vessel broke up. The survivors clung, some to the rigging of the main-mast, part of which was out of water, and others to floating pieces of wood. When the *Birkenhead* divided into two pieces, the commander of the ship called out, "All those who can swim, jump overboard and make for the boats!" Two of the military officers earnestly besought their men not to do so, as, in that case, the boats with the women must be swamped; and, to the honour of the soldiers, only three made the attempt.

The struggles of a part of them to reach the shore, the weary tramp through a country covered with thick thorny bushes, before they could reach any farm or settlement; the sufferings of thirty or more poor fellows who were clinging, in a state of utter exhaustion, cold, and wretchedness, to the main-topmast and topsail-yard of the submerged vessel, before they were rescued by a passing schooner, have often been told. The conduct of the troops was perfect; and it is questionable whether there is any other instance of such thorough discipline at a time of almost utter hopelessness. The loss of life was enormous, only 192 out of 638 being saved. Had there been any panic, or mutiny, not even that small remnant would have escaped.

Turn we now to another and a sadder case, where the opposite qualities were most unhappily displayed, and the consequences of which were proportionately terrible.

On the 17th of June, 1816, the *Medusa*, a fine French frigate, sailed from Aix, with troops and colonists on board, destined for the west coast of Africa. Several settlements which had previously belonged to France, but which fell into the hands of the English during the war, were, on the peace of 1815, restored to their original owners; and it was to take re-possession that the French Government dispatched the expedition, which consisted of two vessels, one of which was the *Medusa*. Besides infantry and artillery, officers and men, there was a governor, with priests, schoolmasters, notaries, surgeons, apothecaries, mining and other engineers, naturalists, practical agriculturists, bakers, workmen, and thirty-eight women, the whole expedition numbering 365 persons, exclusive of the ship's officers and company. Of these the *Medusa* took 240, making, with her crew and passengers, a total of 400 on board.

After making Cape Blanco, the expedition had been ordered to steer due westward to sea for some sixty miles, in order to clear a well-known sand-bank, that of Arguin. The captain, however, seems to have been an ill-advised, foolhardy man, and he took a southward course. The vessel shortened sail every two hours to sound, and every half-hour the lead was cast, without slackening sail. For some little time the soundings indicated deep water, but shortly after the course had been altered to S.S.E., the colour of the water changed, seaweeds floated round the ship, and fish were caught from its sides; all indications of shallowing. But the captain heeded not these obvious signs, and the vessel suddenly grounded on a bank. The weather being moderate, there was no reason for alarm, and she would



THE RAFT OF THE "MEDUSA."

have been got off safely had the captain been even an average sailor. For the time, the *Medusa* stuck fast on the sand-bank, and as a large part of those on board were landsmen, consternation and disorder reigned supreme, and reproaches and curses were liberally bestowed on the captain. The crew was set to work with anchors and cables to endeavour to work the vessel off. During the day, the topmasts, yards, and booms were unshipped and thrown overboard, which lightened her, but were not sufficient to make her float. Meantime, a council was called, and the governor of the colonies exhibited the plan of a raft, which was considered large enough to carry two hundred persons, with all the necessary stores and provisions. It was to be towed by the boats, while their crews were to come to it at regular meal-times for their rations. The whole party was to land in a body on the sandy shore of the coast—known to be at no great distance—and proceed to the nearest settlements. All this was, theoretically speaking, most admirable, and had there been any leading spirit in

command, the plan would have been, as was afterwards proved, quite practicable. The raft was immediately constructed, principally from the spars removed from the vessel as before mentioned.

Various efforts were made to get the *Medusa* off the sandbank, and at one time she swung entirely, and turned her head to sea. She was, in fact, almost afloat, and a tow-line applied in the usual way would have taken her into deep water; but this familiar expedient was never even proposed. Or, even had she been lightened by throwing overboard a part of her stores temporarily—which could have been done without serious harm to many articles—she might have been saved. Half-measures were tried, and even these were not acted on with perseverance. During the next night there was a strong gale and heavy swell, and the *Medusa* heeled over with much violence; the keel broke in two, the rudder was unshipped, and, still holding to the stern-post by the chains, dashed against the vessel and beat a hole into the captain's cabin, through which the waves entered. It was at this time that the first indications of that unruly spirit which afterwards produced so many horrors appeared among the soldiers, who assembled tumultuously on deck, and could hardly be quieted. Next morning there were seven feet of water in the hold, and the pumps could not be worked, so that it was resolved to quit the vessel without delay. Some bags of biscuit were taken from the bread-room, and some casks of wine got ready to put on the boats and raft. But there was an utter want of management, and several of the boats only received twenty-five pounds of biscuit and no wine, while the raft had a quantity of wine and no biscuit. To avoid confusion, a list had been made the evening before, assigning to each his place. No one paid the slightest attention to it, and no one of those in authority tried to enforce obedience to it. It was a case of "*Sauve qui peut!*" with a vengeance: a disorderly and disgraceful scramble for the best places and an utter and total disregard for the wants of others.

It is, and always has been, a point of honour for the officers to be among the very last to leave (except, of course, where their presence might be needed in the boats), and the captain to be the very last. Here, the captain was among the *first* to scramble over the side; and his twelve-oared barge only took off twenty-eight persons, when it would have easily carried many more. A large barge took the colonial governor and his family, *and* the governor's trunks. His boat wanted for nothing, and would have accommodated ten or more persons than it took. When several of the unfortunate crew swam off and begged to be taken in, they were kept off with drawn swords. The raft* took the larger part of the soldiers, and had in all on board one hundred and fifty persons. The captain coolly proposed to desert some sixty of the people still on board, and leave them to shift for themselves; but an officer who threatened to shoot him was the means of making him change his mind,

* The raft is described in the original work on the shipwreck of the *Medusa* substantially as follows:—It was composed of topmasts, yards, planks, the boom, &c., lashed strongly together; two topmasts formed the sides, and four other masts, of the same length as the former, were placed in the centre, planks being nailed on them. Long timbers were placed across the raft, adding considerably to its strength; these projected about ten feet on each side. There was a rail along the sides, to keep those on board from falling into the sea. Its height being only about a foot and a half, it was constantly under water, though this could easily have been remedied, by raising a second floor a foot or two above it. Two of the ship's yards, joined to the extremities of the sides, at one end met in front and formed a bow. Its length was sixty feet, and breadth about twenty.

and over forty were taken off in the long-boat. Seventeen men, many of whom were helplessly intoxicated, were, however, left to their fate.

On the morning of the 5th of July the signal was given to put to sea, and at first some of the boats towed the raft, which had no one to command it but a midshipman named Coudin, who, having a painful wound on his leg, was utterly useless. The other officers consulted their own personal safety only, and, with a few exceptions, this was the case with every one else. When the lieutenant of the long-boat, fearing that he could not keep the sea with eighty-eight men on board, and no oars, entreated three of the other boats, one after the other, to relieve him of a part of his living cargo, they refused utterly; and the officer of the third, in his hurry to run away, loosed from the raft. This was the signal for a general desertion. The word was passed from one boat to another to leave them to their fate, and the captain had not the manliness to protest. The purser of the *Medusa*, with a few others, opposed such a dastardly proceeding, but in vain; and the raft, without means of propulsion, was abandoned. As it proved afterwards, the boats, which all reached the land safely, sighted the coast the same evening; and the raft could have been towed to it in a day or two, or at all events sufficiently near for the purpose. The people on it could not at first believe in this treacherous desertion, and once and again buoyed themselves up with the hope that the boats would return or send relief. The lieutenant on the long-boat seems to have been one of the few officers possessing any spark of humanity and manliness. He kept his own boat near the raft for a time, in the hope that the others might be induced to return, but at length had to yield to the clamour of some eighty men on board with him, who insisted on his proceeding in search of land.

The consternation and despair of those on the raft beggars description. The water was, even while the sea was calm, up to the knees of the larger part on board, while the horrors of a slow death from starvation and thirst, and the prospect of being washed off by the waves, should a storm arise, stared them in the face. Several barrels of flour had been placed on the raft at first, along with six barrels of wine and two small casks of water. When only fifty persons had got on it, their weight sunk it so low in the water that the flour was thrown into the sea, and lost. When the raft quitted the ship, with a hundred and fifty souls on her, she was a foot to a foot and a half under water, and the only food on board was a twenty-five-pound bag of biscuit, in a semi-pulpy condition, which just afforded them one meagre ration.

Some on board, to keep up the courage of the remainder, promulgated the idea that the boats had merely made sail for the island of Arguin, and that, having landed their crews, they would return. This for the moment appeased the indignation of the soldiers and others who had, with frantic gesticulations, been wringing their hands and tearing their hair. Night came on, and the wind freshened, the waves rolling over them, and throwing many down with violence. The cries of the people were mingled with the roar of the waves, whilst heavy seas constantly lifted them off their legs and threatened to wash them away. Thus, clinging desperately to the ropes, they struggled with death the whole night through.

About seven the next morning, the sea was again calm, when they found that twelve or more unfortunate men had, during the night, slipped between the interstices of the raft

and perished. The effects of starvation were beginning to tell upon them:* all their faculties were strangely impaired. Some fancied that they saw lighted signals in the distance, and answered them by firing off their pistols, or by setting fire to small heaps of gunpowder; others thought they saw ships or land, when there was nothing in sight. The next day strong symptoms of mutiny broke out, the officers being utterly disregarded by the soldiers. The evening again brought bad weather. "The people were now dashed about by the fury of the waves; there was no safety but in the centre of the raft," where they packed themselves so close that many were nearly suffocated. "The soldiers and sailors, now considering their destruction inevitable, resolved to drown the sense of their situation by drinking till they should lose their reason;" nor could they be persuaded to forego their mad scheme. They rushed upon a cask of wine which was near the centre, and making a hole in it, drank so much, that the fumes soon mounted to their heads, in the empty condition in which they were; and "they then resolved to rid themselves of their officers, and afterwards to destroy the raft by cutting the lashings which kept it together." One of them commenced hacking away at the ropes with a boarding-hatchet. The civil and military officers rushed on this ringleader, and though he made a desperate resistance, soon dispatched him. The people on the raft were now divided into two antagonistic parties—about twenty civil officers and the better class of passengers on one side, and a hundred or more soldiers and workmen on the other. "The mutineers," says the narrative, "drew their swords, and were going to make a general attack, when the fall of another of their number struck such a seasonable terror into them that they retreated; but it was only to make another attempt at cutting the ropes. One of them, pretending to rest on the side-rail of the raft, began to work;" when he was discovered, and a few moments afterwards, with a soldier who attempted to defend him, was sent to his last account. This was followed by a general fight. An infantry captain was thrown into the sea by the soldiers, but rescued by his friends. He was then seized a second time, and the revolters attempted to put out his eyes. A charge was made upon them, and many put to death. The wretches threw overboard the only woman on the raft, together with her husband. They were, however, saved, only to die miserably soon afterwards.

A second repulse brought many of the mutineers to their senses, and temporarily awed the rest, some asking pardon on their knees. But at midnight the revolt again broke out, the soldiers attacking the party in the centre of the raft with the fury of madmen, even biting their adversaries. They seized upon one of the lieutenants, mistaking him for one of the ship's officers who had deserted the raft, and he was rescued and protected afterwards

* Later it took with many of them still stranger forms. One M. Savigny had the most agreeable visions; he fancied himself in a rich and highly-cultivated country, surrounded by happy companions. Some desired their companions not to fear, that they were going to look for succour, and would soon return; they then plunged into the sea. Others became furious, and rushed on their companions with drawn swords, asking for the wing of a chicken, or some bread. Some, thinking themselves still aboard the frigate, asked for their hammock, that they might go below to sleep. Others imagined that they saw ships, or a harbour, behind which was a noble city. M. Correard believed he was in Italy, enjoying all the delights of that beautiful country. One of the officers said to him, "I recollect that we have been deserted by the boats, but don't be afraid; I have just written to the governor, and in a few hours we shall be in safety." These illusions did not last for any length of time, but were constantly broken by the war of the elements, and the fitful revolts which constantly disgraced the company.

with the greatest difficulty. They threw overboard M. Coudin, an elderly man, who was covered with wounds received in opposing them, and a young boy of the party, in whom he took an interest. M. Coudin had the presence of mind both to support the child and to take hold of the raft; and his friends kept off the brutal soldiery with drawn swords, until they were lifted on board again. The combat was so fierce, and the weather at night so bad, that on the return of day it was found that over sixty had perished off the raft. It is stated that the mutineers had thrown over the remaining water and two casks of wine. The indications in the narrative would not point to the latter conclusion, as the soldiers and workmen were constantly intoxicated, and many, no doubt, were washed off by the waves in that condition. A powerful temperance tract might be written on the loss of the *Medusa*. On the morning of the fourth day after their departure from the frigate, the dead bodies of twelve of the company, who had expired during the night, were lying on the raft. This day a shoal of flying-fish played round the raft, and a number of them got on board,* and were entangled in the spaces between the timbers. A small fire, lighted with flint and steel and gunpowder, was made inside a barrel, and the fish, half-cooked, was greedily devoured. They did not stop here; the account briefly indicates that they ate parts of the flesh of their dead companions. Horror followed horror: a massacre succeeded their savage feast. Some Spaniards, Italians, and negroes among them, who had hitherto taken no part with the mutineers, now formed a plot to throw their superiors into the sea. A bag of money, which had been collected as a common fund, and was hanging from a rude mast hastily extemporised, probably tempted them. The officers' party threw their ringleader overboard, while another of the conspirators, finding his villainy discovered, weighted himself with a heavy boarding-axe, and rushing to the fore part of the raft, plunged headlong into the sea and was drowned. A desperate combat ensued, and the fatal raft was quickly piled with dead bodies.

On the fifth morning, there were only thirty alive. The remnant suffered severely, and one-third of the number were unable to stand up or move about. The salt water and intense heat of the sun blistered their feet and legs, and gave intense pain. In the course of the seventh day, two soldiers were discovered stealing the wine, and they were immediately pushed overboard. This day also, Leon, the poor little boy mentioned before, died from sheer starvation.

The story has been so far nothing but a record of insubordination, murderous brutality, and utter selfishness. But the worst has yet to come. Let the survivors tell their own shameful and horrible story. There were now but twenty-seven left, and "of these twelve, amongst them the woman, were so ill that there was no hope of their surviving, even a few days; they were covered with wounds, and had almost entirely lost their reason. . . . They might have lived long enough to reduce our stock to a very low ebb; but there was no hope that they could last more than a few days. To put them on short allowance was only hastening their death; while giving them a full ration, was uselessly diminishing

* The writer, during a long voyage (England to Vancouver Island, *viâ* Cape Horn), made in 1862, saw flying-fish constantly falling on the deck, where they remained quivering and glittering in the sunlight. To accomplish this, they had to fly over a height of about fifteen or sixteen feet, the top of the bulwarks, or walls of the steamship, being at least that distance above the water.

THE PERUVIAN IRONCLAD *HUASCAR* ATTACKED BY TWO CHILIAN IRONCLADS.

a quantity already too low. After an anxious consultation, we came to the resolution of throwing them into the sea, and thus terminating at once their sufferings. This was a horrible and unjustifiable expedient, but who amongst us would have the cruelty to put it into execution? Three sailors and a soldier took it on themselves. We turned away our eyes from the shocking sight, trusting that, in thus endeavouring to prolong our own lives, we were shortening theirs but a few hours. This gave us the means of subsistence

ON THE RAFT OF THE "MEDUSA"—A SAIL IN SIGHT.
(*After the celebrated Painting by Géricault.*)

for six additional days. After this dreadful sacrifice, we cast our swords into the sea, reserving but one sabre for cutting wood or cordage, as might be necessary." Was there ever such an example of demoniacal hypocrisy, mingled with pretended humanity!

One can hardly interest himself in the fate of the remaining fifteen, who, if they were not all human devils, must have carried to their dying days the brand of Cain indelibly impressed on their memories. A few days passed, and the indications of a close approach to land became frequent. Meantime, they were suffering from the intense heat, and from excessive thirst. One more example of petty selfishness was afforded by an officer who

had found a lemon, which he resolved to keep entirely for himself, until the ominous threats of the rest obliged him to share it. The wine, which should have warmed their bodies and gladdened their hearts, produced on their weakened frames the worst effects of intoxication. Five of the number resolved, and were barely persuaded not to commit suicide, so maddened were they by their potations. Perhaps the sight of the sharks, which now came boldly up to the edges of the raft, had something to do with sobering them, for they decided to live.

Three days now passed in intolerable torments. They had become so careless of life, that they bathed even in sight of the sharks; others were not afraid to place themselves naked upon the fore part of the raft, which was then entirely under water; and, though it was exceedingly dangerous, it had the effect of taking away their thirst. They now attempted to construct a boat of planks and spars. When completed, a sailor went upon it, when it immediately upset, and the design of reaching land by this means was abandoned. On the morning of the 17th of July, the sun shone brightly and the sky was cloudless. Just as they were receiving their ration of wine, one of the infantry officers discerned the topmasts of a vessel near the horizon. Uniting their efforts, they raised a man to the top of the mast, who waved constantly a number of handkerchiefs tied together. After two hours of painful suspense, the vessel, a brig, disappeared, and they once more resigned themselves to despair. Deciding that they must leave some record of their fate, they agreed to carve their names, with some account of their disaster, on a plank, in the hope that it might eventually reach their Government and families. But they were to be saved: the brig reappeared, and bore down for them. She proved to be a vessel which had been dispatched by the Governor of Senegal for the purpose of rescuing any survivors; though, considering the raft had now been seventeen days afloat, there was little expectation that any of its hundred and fifty passengers still lived. The wounded and blistered limbs, sunken eyes, and emaciated frames of the remnant told its own tale on board. And yet, with due order and discipline, presence of mind, and united helpfulness, the ship, with every soul who had sailed on her, might have been saved; and a fearful story of cruelty, murder, and cannibalism spared to us. The modern *Medusa* has been branded with a name of infamy worse than that of the famous classical monster after which she was named. The celebrated picture by Géricault in the Louvre, at Paris, vividly depicts the horrors of the scene.

The wreck of the *Medusa* has very commonly been compared and contrasted with that of the *Alceste*, an English frigate, which was wrecked the same year. Lord Amherst was returning from China in this vessel, after fulfilling his mission to the Court of Pekin, instituted at the instance of the East India Company, who had complained to Government of the impediments thrown in the way of their trade by the Chinese. His secretary and suite were with him; and so there was some resemblance to the case of the *Medusa*, which had a colonial governor and his staff on board. The commander of the *Alceste* was Captain (afterwards Sir) Murray Maxwell, a true gentleman and a bluff, hearty sailor. Having touched at Manilla, they were passing through the Straits of Gaspar, when the ship suddenly struck on a reef of sunken rocks, and it became evident that she must inevitably and speedily break up. The most perfect discipline prevailed; and the first efforts of the captain were naturally directed to saving the ambassador and his subordinates. The island of Palo Leat

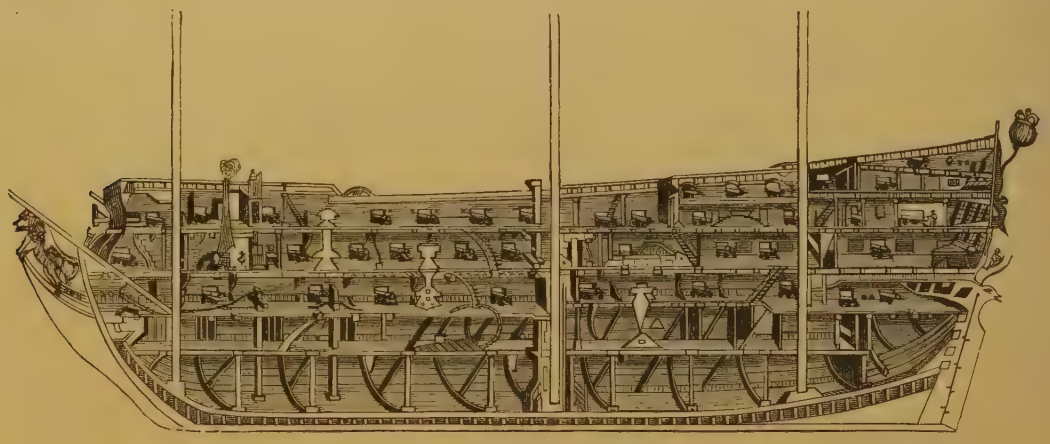
was a few miles off; and, although its coast at this part was a salt-marsh, with mangrove-trees growing out in the water so thick and entangled that it almost prevented them landing, every soul was got off safely. Good feeling and sensible councils prevailed. At first there was no fresh water to be obtained. It was

"Water, water everywhere,
Yet not a drop to drink."

In a short time, however, they dug a deep well, and soon reached plenty. Then the Malays attacked and surrounded them; at first a few score, at last six or seven hundred strong. Things looked black; but they erected a stockade, made rude pikes by sticking their knives, dirks, and small swords on the end of poles; and, although they had landed with just seventy-five ball-cartridges, their stock soon grew to fifteen hundred. How? Why, the sailors set to with a will, and made their own, the balls being represented by their jacket-buttons and pieces of the glass of broken bottles! Of loose powder they had, fortunately, a sufficient quantity. The Malays set the wreck on fire. The men waited till it had burned low, and then drove them off, and went and secured such of the stores as could be now reached, or which had floated off. The natives were gathering thick. Murray made his sailors a speech in true hearty style, and their wild huzzas were taken by the Malays for war-whoops: the latter soon "weakened," as they say in America. From the highest officer to the merest boy, all behaved like calm, resolute, and sensible Britons, and every soul was saved. Lord Amherst, who had gone on to Batavia, sent a vessel for them, on board which Maxwell was the last to embark. At the time of the wreck their condition was infinitely worse than that of the *Medusa;* but how completely different the sequel! The story is really a pleasant one, displaying, as it does, the happy results of both good discipline and mutual good feeling in the midst of danger. *Nil desperandum* was evidently the motto of that crew; and their philosophy was rewarded. The lessons of the past and present, in regard to our great ships, have taught us that disaster is not confined to ironclads, nor victory to wooden walls; neither is good discipline dead, nor the race of true-hearted tars extinct. "Men of iron" will soon be the worthy successors of "hearts of oak."

Having glanced at the causes which led to the ironclad movement, and noted certain salient points in its history, let us now for a while discuss the ironclad herself. It has been remarked, as a matter of reproach to the administrators and builders of the British ironclad navy, that the vessels composing it are not sufficiently uniform in design, power, and speed. Mr. Reed, however, tells us that *la marine moderne cuirassée* of France is still more distinguished by the different types and forms of the vessels; and that ours by comparison wears "quite a tiresome appearance of sameness;" while, again, Russia has ironclads even more diversified than those of France. The objection is, perhaps, hardly a fair one, as the exigencies of the navy are many and varied. We might have to fight a first-class power, or several first-class powers, where all our strength would have to be put forth; some second-class power might require chastising, where vessels of a secondary class might suffice; while almost any vessel of the navy would be efficient in the case of wars with native tribes, as, for example, the Maories of New Zealand, or the Indians of the coasts of North-west America. In a great naval conflict, provided the vessels of our fleet steamed pretty evenly as regards speed, there would be an advantage in variety; for it might rather puzzle and

worry the enemy, who would not know what next would appear, or what new form turn up. Mr. Reed puts the matter in a nutshell; although it must be seen that, among first-class powers with first-class fleets, the argument cuts both ways. "In the old days," says he, "when actions had to be fought under sail, and when ships of a class were in the main alike, the limits within which the arts, the resources, and the audacities of the navy were restricted were really very narrow; and yet how brilliant were its achievements! I cannot but believe that, if the English ironclad fleet were now to be engaged in a general action with an enemy's fleet, the very variety of our ships—those very improvements which have occasioned that variety—would be at once the cause of the greatest possible embarrassment to the enemy, and the means of the most vigorous and diversified attack upon the hostile fleet. This is peculiarly true of all those varieties which result from increase in handiness, in bow-fire, in height of port, and so forth; and unless I have mis-read



SECTION OF A FIRST-CLASS MAN-OF-WAR.

our naval history, and misappreciate the character of our naval officers of the present day, the nation will, in the day of trial, obtain the full benefit of these advantages."

It needs no argument to convince the reader that the aim of a naval architect should be to combine in the best manner available, strength and lightness. The dimensions and outside form of the ship in great part determine her displacement; and her capacity to carry weights depends largely on the actual weight of her own hull; while the room within partly depends on the thinness or thickness of her walls. Now, we have seen that in wooden ships the hull weighs more than in iron ships of equal size; and it will be apparent that what is gained in the latter case can be applied to *carrying* so much the more iron armour. Hence, distinguished authorities do not believe in the wood-built ship *carrying* heavy armour, nearly so much as in the ironclad, iron-*built* ship.* The durability

* Large merchant-vessels have been constructed of steel, which is stronger than iron, weight for weight; and consequently, in building vessels of equal strength, a less weight and thickness is required. It is said, that if the large Atlantic steamers of 3,500 tons and upwards were built of steel, instead of iron, their displacement in the water would be one-sixth less, and their carrying capacity double. A steel troop-ship, accommodating about 1,000 persons.

and strength are greater. The authority of such a man as Mr. J. Scott Russell, the eminent shipbuilder, will be conclusive. In a pamphlet,* published in 1862, he noted the following ten points: 1, That iron steam ships-of-war may be built as strong as wooden ships of greater weight, and stronger than wooden ships of equal weight. 2, That iron ships of equal strength can go on less draught of water than wooden ships. 3, That iron ships can carry much heavier weights than wooden ships [hence they can carry heavier armour].

THE "WARRIOR."

4, That they are more durable. 5, 6, 7, 8, 9, That they are safer against the sea, against fire, explosive shots, red-hot shots, molten metal; and 10, That they can be made impregnable even against solid shot.

The last point, alas! is one which the late Mr. Scott Russell himself would hardly have insisted upon to-day. When he wrote, five or six inches of armour, with a wood backing, withstood anything that could be fired against it. When the armour of the *Warrior*, our

and drawing only two feet and a quarter of water, was constructed, in 1861, for use on the Lower Indus. She was taken out in pieces and put together in India, the total weight of the steel employed being only 270 tons, although she was 375 feet long, with a beam of 46 feet.

* "The Fleet of the Future: Iron or Wood," by J. Scott Russell, F.R.S., &c.

first real ironclad, had to be tested, a target, twenty feet by ten feet surface, composed of four and a half inch iron and eighteen inches of teak backing—the exact counterpart of a slice out of the ship's side—was employed. The shot from 68-pounders—the same as composed her original armament—fired at 200 yards, only made small dents in the target and rebounded. 200-pounders had no more effect; the shot flew off in ragged splinters, the iron plates became almost red-hot under the tremendous strokes, and rung like a huge gong; but that was all. Now we have 6½-ton guns that would pierce her side at 500 yards; 12-ton guns that would put a hole through her armour at over a mile, and 25-ton guns that would probably penetrate the armour of any ironclad whatever. Why, some of the ships themselves are now carrying 30-ton guns! It is needless to go on and speak of monster 81 and 100-ton guns after recording these facts. But their consideration explains why the thickness of armour has kept on increasing, albeit it could not possibly do so in an equal ratio.

Mr. Reed tells us: "This strange contest between attack and defence, however wasteful, however melancholy, must still go on."* Sir W. G. Armstrong (inventor of the famous guns), on the other hand, says, "In my opinion, armour should be wholly abandoned for the defence of the guns, and, except to a very limited extent, I doubt the expediency of using it even for the security of the ship. Where armour can be applied for *deflecting* projectiles, as at the bow of a ship, it would afford great protection, without requiring to be very heavy."† Sir William recommends very swift iron vessels, divided into numerous compartments, with boilers and machinery below the water-line, and only very partially protected by armour; considering that victory in the contest as regards strength is entirely on the side of the artillery. Sir Joseph Whitworth (also an inventor of great guns) offered practically to make guns to penetrate *any* thickness of armour. The bewildered Parliamentary committee says mournfully in its report: "A perfect ship of war is a desideratum which has never yet been attained, and is now farther than ever removed from our reach;"‡ while Mr. Reed § again cuts the gordian knot by professing his belief that in the end, "guns will themselves be superseded as a means of attack, and the ship itself, viewed as a steam projectile—possessing all the force of the most powerful shot, combined with the power of striking in various directions—will be deemed the most formidable weapon of attack that man's ingenuity has devised." But here the ironclad will come into competition with another means of attack, which must not pass without mention. Torpedoes, in the form to which the ingenuity of Mr. Whitehead and other inventors has brought them, are quite as destructive to vessels as the ram of a hostile ironclad; and the marvellous precision of movement imparted to them makes them almost equally certain of reaching their mark, especially as they pass unseen beneath the surface of the water in their work of destruction. In addition to this, the use of an ironclad as a ram must always expose the vessel itself and its crew to serious risk of damage or destruction, whereas torpedoes, while equally effective, would involve no such danger. The contest between professed ship and gun makers would be amusing but for the serious side—the immense expense, and the important interests involved.

* Letter to the *Times*, Sept. 6th, 1875 (after the loss of the *Vanguard*).

† Parliamentary Paper, 1872. Reports of the Committee on Designs for Ships of War, &c.

‡ *Ibid.* § "Our Ironclad Ships."

CHAPTER VI.

Round the World on a Man-of-War.

The Mediterranean—White, blue, green, purple Waters—Gibraltar—Its History—Its first Inhabitants the Monkeys—The Moors—The Great Siege preceded by thirteen others—The Voyage of Sigurd to the Holy Land—The Third Siege—Starvation—The Fourth Siege—Red-hot balls used before ordinary Cannon-balls—The Great Plague—Gibraltar finally in Christian hands—A Naval Action between the Dutch and Spaniards—How England won the Rock—An Unrewarded Hero—Spain's attempts to regain It—The Great Siege—The Rock itself and its Surroundings—The Straits—Ceuta, Gibraltar's Rival—The Saltness of the Mediterranean—"Going aloft"—On to Malta.

In this and following chapters, we will ask the reader to accompany us in imagination round the world, on board a ship of the Royal Navy, visiting *en route* the principal British naval stations and possessions, and a few of those friendly foreign ports which, as on the Pacific station, stand in lieu of them. We cannot do better than commence with the Mediterranean, to which the young sailor will, in all probability, be sent for a cruise after he has been thoroughly "broken in" to the mysteries of life on board ship, and where he has an opportunity of visiting many ports of ancient renown and of great historical interest.

The modern title applied to the sea "between the lands" is not that of the ancients, nor indeed that of some peoples now. The Greeks had no special name for it. Herodotus calls it "this sea;" and Strabo the "sea within the columns," that is, within Calpe and Abyla—the fabled pillars of Hercules—to-day represented by Gibraltar and Ceuta. The Romans called it variously *Mare Internum* and *Mare Nostrum*, while the Arabians termed it *Bahr Rüm*—the Roman Sea. The modern Greeks call it *Aspri Thalassa*—the White Sea; it might as appropriately be called blue, that being its general colour, or green, as in the Adriatic, or purple, as at its eastern end: but they use it to distinguish it from the "Sea of Storms"—the Black Sea. The Straits—"the Gate of the Narrow Passage," as the Arabians poetically describe it, or the *Gut*, as it is termed by our prosaic sailors and pilots—is the narrow portal to a great inland sea with an area of 800,000 miles, whose shores are as varied in character as are the peoples who own them. The Mediterranean is salter than the ocean, in spite of the great rivers which enter it—the Rhone, Po, Ebro, and Nile—and the innumerable smaller streams and torrents.* It has other physical and special characteristics, to be hereafter considered.

The political and social events which have been mingled with its history are interwoven with those of almost every people on the face of the globe. We shall see how much our own has been shaped and involved. It was with the memory of the glorious deeds of British seamen and soldiers that Browning wrote, when sailing through the Straits:—

> "Nobly, nobly, Cape St. Vincent to the north-west died away;
> Sunset ran, one glorious blood-red, reeking into Cadiz Bay;
> Bluish, 'mid the burning water, full in face Trafalgar lay;
> In the dimmest north-east distance dawned Gibraltar, grand and gray;

* *Vide* "The Mediterranean," by Rear-Admiral Smyth. This is a standard work on all scientific points connected with the Mediterranean.

'Here, and here, did England help me—how can I help England?'—say
Whoso turns as I, this evening, turns to God to praise and pray,
While Jove's planet rises yonder, silent over Africa."

And the poet is almost literally correct in his description, for within sight, as we enter the Straits of Gibraltar, are the localities of innumerable sea and land fights dating from earliest days. That grand old Rock, what has it not witnessed since the first timid mariner crept out of the Mediterranean into the Atlantic—the *Mare Tenebrosum*,—the "sea of darkness" of the ancients? Romans of old fought Carthaginian galleys in its bay; the conquering Moors held it uninterruptedly for six hundred years, and in all for over seven centuries; Spain owned it close on two and a half centuries; and England has dared the world to take it since 1704—one hundred and seventy-three years ago. Its very armorial bearings, which we have adopted from those given by Henry of Castile and Leon, are suggestive of its position and value: a castle on a rock with a key pendant —the key to the Mediterranean. The King of Spain still includes Calpe (Gibraltar) in his dominions; and natives of the place, Ford tells us, in his "Handbook to Spain," are entitled to the rights and privileges of Spanish birth. It has, in days gone by, given great offence to French writers, who spoke of *l'ombrageuse puissance* with displeasure. "Sometimes," says Ford, "there is too great a *luxe de canons* in this fortress *ornée;* then the gardens destroy 'wild nature;" in short, they abuse the red-jackets, guns, nursery-maids, and even the monkeys." The present colony of apes are the descendants of the aboriginal inhabitants of the Rock. They have held it through all vicissitudes.

The Moorish writers were ever enthusiastic over it. With them it was "the Shining Mountain," "the Mountain of Victory." "The Mountain of Taric"* (Gibraltar), says a Granadian poet, "is like a beacon spreading its rays over the sea, and rising far above the neighbouring mountains; one might fancy that its face almost reaches the sky, and that its eyes are watching the stars in the celestial track." An Arabian writer well describes its position:—"The waters surround Gibraltar on almost every side, so as to make it look like a watch-tower in the midst of the sea."

The fame of the last great siege, already briefly described in these pages,† has so completely overshadowed the general history of the Rock that it will surprise many to learn that it has undergone no less than fourteen sieges. The Moors, after successfully invading Spain, first fortified it in 711, and held uninterrupted possession until 1309, when Ferdinand IV. besieged and took it. The Spaniards only held it twenty-five years, when it reverted to the Moors, who kept it till 1462. "Thus the Moors held it in all about seven centuries and a quarter, from the making a castle on the Rock to the last sorrowful departure of the remnants of the nation. It has been said that Gibraltar was the landing-place of the vigorous Moorish race, and that it was the point of departure on which their footsteps lingered last. In short, it was the European *tête de pont*, of which Ceuta stands as the African fellow. By these means myriads of Moslems passed into Spain, and with them much for which the Spaniards are wrongfully unthankful. It is said that when the Moors left their houses in Granada, which they

* One of the earliest of the Moorish conquerors of Spain, who first fortified the Rock.

† *Vide* page 16.

to Europe intelligence of the bright isles, whose Japanese name, Nipon or Niphon, means literally "Sun-source."

On the way to Yokohama, the principal *port*, though by no means one of the largest cities of Japan—Tokio, the capital, being stated variously to have from 100,000 to half a million of population—the monsoons will probably be encountered; those winds bring deliciously cool air from October to spring, but are succeeded by others which are accompanied by hot and wearisome weather. The voyager will pass *en route* another port, Nagasaki, which possesses a harbour with a very narrow entrance, strongly fortified with batteries, while green hills, covered with luxuriant grass and low trees, run down to the water's edge. When Yokohama

THE FUSIYAMA MOUNTAIN.

is reached, its harbour will be found full of shipping, although its population hardly exceeds 65,000. There are a number of Chinese restricted to one quarter, surrounded by a high wall, in which is a heavy gate, that is securely locked every night. Their dwellings are usually mean and filthy, and compare very unfavourably with the neat, clean, matted dwellings of the Japanese. The latter despise the former; indeed, you can scarcely insult a native more than to compare him with his brother of Nankin.

The island of Niphon, on which Yokohama is situated, is about one hundred and seventy miles long by seventy broad, while Yesso is somewhat longer and narrower. Japan really became known to Europe through Fernando Mendez Pinto, a Portuguese who was shipwrecked there in 1549. Seven years later the famous Jesuit, Francis Xavier, introduced the Catholic faith, which for a long time made great progress. But a fatal mistake was made in 1580, when an embassy was sent to the Pope with presents and

vows of allegiance. The reigning Tycoon* had his eyes opened by this act, and saw that to profess obedience to any spiritual lord was to weaken his own power immeasurably. The priests of the old religions, too, complained bitterly of the loss of their flocks, and the Tycoon determined to crush out the Christian faith. Thousands upon thousands of converts were put to death, and the very last of them are said to have been hurled from the rock of Papenberg, at Nagasaki, into the sea. In 1600, William Adams, an English sailor on a Dutch ship, arrived in the harbour of Bungo, and speedily became a favourite with the Tycoon, who, through him, gave the English permission to establish a trading "factory" on the island of Firando. This was later on abandoned, but the Dutch East India Company continued the trade on the same island, under very severe restrictions. The fire-arms and powder on their ships were taken from them immediately on arrival, and only returned when the ships were ready for sea again.

Yokohama, the principal port, stands on a flat piece of ground, at the wide end of a valley, which runs narrowing up for several miles in the country. The site was reclaimed from a mere swamp by the energy of the Government; and there is now a fine sea-wall facing the sea, with two piers running out into it, on each of which there is a custom-house. The average Japanese in the streets is clothed in a long thin cotton robe, open in front and gathered at the waist by a cloth girdle. This constitutes the whole of his dress, save a scanty cloth tied tightly round the loins, cotton socks and wooden clogs. The elder women look hideous, but some of their ugliness is self-inflicted, as it is the fashion, when a woman becomes a wife, to draw out the hair of her eyebrows and varnish her teeth black! The teeth of the younger women are white, and they still have their eyebrows, but they are too prone to the use of chalk and vermilion on their cheeks. Every one is familiar with the Japanese stature—under the general average—for there are now a large number of the natives resident in London.

Jack will soon find out that the Japanese *cuisine* is most varied. Tea and sacki, or rice beer, are the only liquors used, except, of course, by travelled, Europeanised, or Americanised Japanese. They sit on the floor, squatting on their heels in a manner which tires Europeans very rapidly, although they look as comfortable as possible. The floor serves them for chair, table, bed, and writing-desk. At meals there is a small stand, about nine inches high, by seven inches square, placed before each individual, and on this is deposited a small bowl, and a variety of little dishes. Chopsticks are used to convey the food to their mouths. Their most common dishes are fish boiled with onions, and a kind of small bean, dressed with oil; fowls stewed and cooked in all ways; boiled rice. Oil, mushrooms, carrots, and various bulbous roots, are greatly used in making up their dishes. In the way of a bed in summer, they merely lie down on the mats, and put a *wooden* pillow under their heads; but in winter indulge in warm quilts, and have brass pans of charcoal at the feet. They are very cleanly, baths being used constantly, and the public bath-houses being open to the street. Strangely enough, however, although so particular in bodily cleanliness, they never wash their clothes, but wear them till they almost drop to

* The Tycoon is nominated out of the members of three families having hereditary rights. The princes or Daimios number three or four hundred, many having enormous incomes and armies of retainers. The Prince of Kangâ, for example, has £760,000 a year; the Prince of Satsuma £487,000; and the Prince of Owari £402,900.

pieces. A gentleman who arrived there in 1859, had to send his clothes to Shanghai to be washed—a journey of 1,600 miles! Since the great influx of foreigners, however, plenty of Niphons have turned laundrymen.

Their tea-gardens, like those of the Chinese, are often large and extremely ornamental, and at them one obtains a cup of genuine tea made before your eyes for one-third of a halfpenny.*

The great attraction, in a landscape point of view, outside Yokohama, is the grand Fusiyama Mountain, an extinct volcano, the great object of reverence and pride in the Japanese heart, and which in native drawings and carvings is incessantly represented. A giant, 14,000 feet high, it towers grandly to the clouds, snow-capped and streaked. It is deemed a holy and worthy deed to climb to its summit, and to pray in the numerous temples that adorn its sides. Thousands of pilgrims visit it annually. And now let us make a northward voyage.

CHAPTER IX.

Round the World on a Man-of-War (*continued*).

NORTHWARD AND SOUTHWARD—THE AUSTRALIAN STATION.

The Port of Peter and Paul—Wonderful Colouring of Kamchatka Hills—Grand Volcanoes—The Fight at Petropaulovski—A Contrast—An International Pic-nic—A Double Wedding—Bering's Voyages—Kamchatka worthy of Further Exploration—Plover Bay—Tchuktchi Natives—Whaling—A Terrible Gale—A Novel "Smoke-stack"—Southward again—The Liverpool of the East—Singapore, a Paradise—New Harbour—Wharves and Shipping—Cruelties of the Coolie Trade—Junks and Prahus—The Kling-gharry Drivers—The Durian and its Devotees—Australia—Its Discovery—Botany Bay and the Convicts—The First Gold—Port Jackson—Beauty of Sydney—Port Philip and Melbourne.

Many English men-of-war have visited the interesting peninsula of Kamchatka, all included in the China station. How well the writer remembers the first time he visited Petropaulovski, the port of Peter and Paul! Entering first one of the noblest bays in the whole world—glorious Avatcha Bay—and steaming a short distance, the entrance to a capital harbour disclosed itself. In half an hour the vessel was inside a land-locked haven, with a sand-spit protecting it from all fear of gales or sudden squalls. Behind was a highly-coloured little town, red roofs, yellow walls, and a church with burnished turrets. The hills around were autumnly frost-coloured; but not all the ideas the expression will convey to an artist could conjure up the reality. Indian yellow merging through tints of gamboge, yellow, and brown ochre to sombre brown; madder lake, brown madder, Indian red to Roman sepia; greys, bright and dull greens indefinable, and utterly indescribable, formed a *mélange* of colour which defied description whether by brush or pen. It was delightful; but it was puzzling. King Frost had completed at night that which autumn had done by day. Then behind rose the grand mountain of Koriatski, one of a series of great volcanoes.

* For further details concerning this most interesting people, *vide* Dr. Robert Brown's "Peoples of the World."

It seemed a few miles off; it was, although the wonderful clearness of the atmosphere belied the fact, some thirty miles distant. An impregnable fortress of rock, streaked and capped with snow, it defies time and man. Its smoke was constantly observed; its pure snows only hid the boiling, bubbling lava beneath.

With the exception of a few decent houses, the residences of the civil governor, captain of the port, and other officials, and a few foreign merchants, the town makes no great show. The poorer dwellings are very rough, and, indeed, are almost exclusively log cabins. A very picturesque and noticeable building is the old Greek church, which has painted red and green roofs, and a belfry full of bells, large and small, detached from the building, and only a foot or two raised above the ground. It is to be noted that the town, as it existed in Captain Clerke's time, was built on the sand-spit. It was once a military post, but the Cossack soldiers have been removed to the Amoor.

There are two monuments of interest in Petropaulovski; one in honour of Bering, the second to the memory of La Perouse. The former is a plain cast-iron column, railed in, while the latter is a most nondescript construction of sheet iron, and is of octagonal form. Neither of these navigators is buried in the town. Poor Bering's remains lie on the island where he miserably perished, and which now bears his name; while of the fate of La Perouse, and his unfortunate companions, little is known.

In 1855, Petropaulovski was visited by the allied fleets, during the period of our war with Russia. They found an empty town, for the Russian Government had given up all idea of defending it. The combined fleet captured one miserable whaler, razed the batteries, and destroyed some of the government buildings. There were good and sufficient reasons why they should have done nothing. The poor little town of Saints Peter and Paul was beneath notice, as victory there could never be glorious. But a stronger reason existed in the fact, recorded in a dozen voyages, that from the days of Cook and Clerke to our own, it had always been famous for the unlimited hospitality and assistance shown to explorers and voyagers, without regard to nationality. All is *not* fair in war. Possibly, however, reason might be found for the havoc done, in the events of the previous year.

In August, 1854, the inhabitants of Petropaulovski had covered themselves with glory, much to their own surprise. On the 28th of the month, six English and French vessels—the *President*, *Virago*, *Pique*, *La Fort*, *l'Eurydice*, and *l'Obligado*—entered Avatcha Bay. Admiral Price reconnoitred the harbour and town, and placed the *Virago* in position at 2,000 yards. The Russians had two vessels, the *Aurora* and *Dwina*, to defend the harbour, and a strong chain was placed across its narrow entrance. The town was defended by seven batteries and earthworks, mounting fifty guns.

It was not difficult to silence the batteries, and they were accordingly silenced. The townspeople, with their limited knowledge of the English—those English they had always so hospitably received, and who were now doing their best to kill them—thought their hour was come, and that, if not immediately executed, they would have to languish exiles in a foreign land, far from their beautiful Kamchatka. The town was, and is, defended almost as much by nature as by art. High hills shut it in so completely, and the harbour entrance can be so easily defended, that there is really only one vulnerable point, in its rear,

SURVIVORS RESCUED FROM THE RIGGING OF A WRECK.

A TEA MART IN JAPAN.

where a small valley opens out into a plot of land bordering the bay. Here it was thought desirable to land a body of men.

Accordingly, 700 marines and sailors were put ashore. The men looked forward to an easy victory, and hurriedly, in detached and straggling style, pressed forward to secure it. Alas! they had reckoned without their host—they were rushing heedlessly into the jaws of death. A number of bushes and small trees existed, and still exist, on the hill-sides surrounding this spot, and behind them were posted Cossack sharp-shooters, who fired into our men, and, either from skill or accident, picked off nearly every officer. The men, not seeing their enemy, and having lost their leaders, became panic-struck, and fell back in disorder. A retreat was sounded, but the men struggling in the bushes and underbrush (and, in truth, most of them being sailors, were out of their element on land) became much scattered, and it was generally believed that many were killed by the random shots of their companions. A number fled up a hill at the rear of the town; their foes pursued and pressed upon them, and many were killed by falling over the steep cliff in which the hill terminates.

The inhabitants, astonished at their own prowess, and knowing that they could not hold the town against a more vigorous attack, were preparing to vacate it, when the fleet weighed anchor and set sail, and no more was seen of them that year! The sudden death of our admiral is always attributed to the events of that attack, as he was known not to have been killed by a ball from the enemy.*

The writer has walked over the main battle-field, and saw cannon-balls unearthed when some men were digging gravel, which had laid there since the events of 1854. The last time he passed over it, in 1866, was when proceeding with some Russian and American friends to what might be termed an "international" pic-nic, for there were present European and Asiatic Russians, full and half-breed natives, Americans, including genuine "Yankee" New Englanders, New Yorkers, Southerners, and Californians, Englishmen, Frenchmen, Germans, and one Italian. Chatting in a babel of tongues, the party climbed a path on the hill-side, leading to a beautiful grassy opening, overlooking the glorious bay below, which extended in all directions a dozen or fifteen miles, and on one side farther than the eye could reach. Several grand snow-covered volcanoes towered above, thirty to fifty miles off; one, of most beautiful outline, that of Vilutchinski, was on the opposite shore of Avatcha Bay.

The sky was bright and blue, and the water without a ripple; wild flowers were abundant, the air was fragrant with them, and, but for the mosquitoes (which are *not* confined to hot countries, but flourish in the short summer of semi-Arctic climes), it might have been considered an earthly edition of paradise! But even these pests could not worry the company much, for not merely were nearly all the men smokers, but most of the ladies also! Here the writer may remark, parenthetically, that many of the Russian ladies smoke cigarettes, and none object to gentlemen smoking at table or elsewhere. At the many dinners and suppers offered by the hospitable residents, it was customary to draw a few whiffs between the courses; and when the cloth was removed,

* *Vide* "Nautical Magazine," October, 1855.

the ladies, instead of retiring to another room, sat in company with the gentlemen, the larger proportion joining in the social weed. After the enjoyment of a liberal *al fresco* dinner, songs were in order, and it would be easier to say what were not sung than to give the list of those, in all languages, which were. Then after the songs came some games, one of them a Russian version of "hunt the slipper," and another *very* like "kiss in the ring." The writer particularly remembers the latter, for he had on that occasion the honour of kissing the Pope's wife! This needs explanation, although the Pope was his friend. In the Greek Church the priest is "allowed to marry," and his title, in the Russian language, is "Pope."

And the recollection of that particular "Pope" recalls a well-remembered ceremony —that of a *double* wedding in the old church. During the ceremony it is customary to crown the bride and bridegroom. In this case two considerate male friends held the crowns for three-quarters of an hour over the brides' heads, so as not to spoil the artistic arrangement of their hair and head-gear. It seems also to be the custom, when, as in the present case, the couples were in the humbler walks of life, to ask some wealthy individual to act as master of the ceremonies, who, if he accepts, has to stand all the expenses. In this case M. Phillipeus, a merchant who has many times crossed the frozen steppes of Siberia in search of valuable furs, was the victim, and he accepted the responsibility of entertaining all Petropaulovski, the officers of the splendid Russian corvette, the *Variag*, and those of the Telegraph Expedition, with cheerfulness and alacrity.

The coast-line of Kamchatka is extremely grand, and far behind it are magnificent volcanic peaks. The promontory which terminates in the two capes, Kamchatka and Stolbevoy, has the appearance of two islands detached from the mainland, the intervening country being low. This, a circumstance to be constantly observed on all coasts, was, perhaps, specially noticeable on this. The island of St. Lawrence, in Bering Sea, was a very prominent example. It is undeniable that the apparent gradual rise of a coast, seen from the sea as you approach it, affords a far better proof of the rotundity of the earth than the illustrations usually employed, that of a ship, which you are supposed to see by instalments, from the main-royal sail (if not from the 'sky-scraper' or 'moon-raker') to the hull. The fact is, that the royal and top-gallant sails of a vessel on the utmost verge of the horizon may be, in certain lights, barely distinguishable, while the dark outline of an irregular and rock-bound coast can be seen by any one. First, maybe, appears a mountain peak towering in solitary grandeur above the coast-line, and often far behind it, then the high lands and hills, then the cliffs and low lands, and, lastly, the flats and beaches.

It was from the Kamchatka River, which enters Bering Sea near the cape of the same name, that Vitus Bering sailed on his first voyage. That navigator was a persevering and plucky Dane, who had been drawn into the service of Russia through the fame of Peter the Great, and his first expedition was directly planned by that sagacious monarch, although he did not live to carry it out. Müller, the historian of Bering's career, says: "The Empress Catherine, as she endeavoured in all points to execute most precisely the plans of her deceased husband, in a manner began her reign with an order for the expedition to Kamchatka." Bering had associated with him two active subordinates,

Spanberg and Tschirikoff. They left St. Petersburg on February 5th, 1725, proceeding to the Ochotsk Sea, *via* Siberia. It is a tolerable proof of the difficulties of travel in those days, that it took them *two years* to transport their outfit thither. They crossed to Kamchatka, where, on the 4th of April, 1728, Müller tells us, "a boat was put upon the stocks, like the packet-boats used in the Baltic, and on the 10th of July was launched, and named the boat *Gabriel*." A few days later, and she was creeping along the coast of Kamchatka and Eastern Siberia. Bering on this first voyage discovered St. Lawrence Island, and reached as far north as 67° 18′, where, finding the land trend to the westward, he came to the conclusion that he had reached the eastern extremity of Asia, and that Asia and America were distinct continents. On the first point he was not, as a matter of detail, quite correct; but the second, the important object of his mission, settled for ever the vexed question.

A second voyage was rather unsuccessful. His third expedition left Petropaulovski on the 4th of July, 1741. His little fleet became dispersed in a storm, and Bering pursued his discoveries alone. These were not unimportant, for he reached the grand chain of the rock-girt Aleutian Islands, and others nearer the mainland of America. At length the scurvy broke out in virulent form among his crew, and he attempted to return to Kamchatka. The sickness increased so much that the "two sailors who used to be at the rudder were obliged to be led in by two others who could hardly walk, and when one could sit and steer no longer, one in little better condition supplied his place. Many sails they durst not hoist, because there was nobody to lower them in case of need." At length land appeared, and they cast anchor. A storm arose, and the ship was driven on the rocks; they cast their second anchor, and the cable snapped before it took ground. A great sea pitched the vessel bodily over the rocks, behind which they happily found quieter water. The island was barren, devoid of trees, and with little driftwood. They had to roof over gulches or ravines, to form places of refuge. On the "8th of November a beginning was made to land the sick; but some died as soon as they were brought from between decks in the open air, others during the time they were on the deck, some in the boat, and many more as soon as they were brought on shore." On the following day the commander, Bering, himself prostrated with disease, was brought ashore, and moved about on a hand-barrow. He died a month after, in one of the little ravines, or ditches, which had been covered with a roof, and when he expired was almost covered with the sand which fell from its sides, and which he desired his men not to remove, as it gave him some little warmth. Before his remains could be finally interred they had literally to be disinterred.

The vessel, unguarded, was utterly wrecked, and their provisions lost. They subsisted mainly that fearful winter on the carcases of dead whales, which were driven ashore. In the spring the pitiful remnant of a once hardy crew managed to construct a small vessel from the wreck of their old ship, and at length succeeded in reaching Kamchatka. They then learned that Tschirikoff, Bering's associate, had preceded them, but with the loss of thirty-one of his crew from the same fell disease which had so reduced their numbers. Bering's name has ever since been attached to the island where he died.

There is no doubt that Kamchatka would repay a detailed exploration, which it

has never yet received. It is a partially settled country. The Kamchatkans are a good-humoured, harmless, and semi-civilised race, and the Russian officials and settlers at the few little towns would gladly welcome the traveller. The dogs used for sledging in winter are noble animals, infinitely stronger than those of Alaska or even Greenland. The attractions for the Alpine climber cannot be overstated. The peninsula contains a chain of volcanic peaks, attaining, it is stated, in the Klutchevskoi Mountain a height

PETROPAULOVSKI AND THE AVATCHA MOUNTAIN.

of 16,000 feet. In the country immediately behind Petropaulovski are the three peaks, Koriatski, Avatcha, and Koseldskai; the first is about 12,000 feet in height, and is a conspicuous landmark for the port. A comparatively level country, covered with rank grass and underbrush, and intersected by streams, stretches very nearly to their base.

And now, before leaving the Asiatic coast, let us, as many English naval vessels have done, pay a flying visit to a still more northern harbour, that of Plover Bay, which forms the very apex of the China Station. Sailing, or steaming, through Bering Sea, it is satisfactory to know that so shallow is it that a vessel can anchor in almost

any part of it, though hundreds of miles from land.* Plover Bay does *not* derive its name from the whaling which is often pursued in its waters, although an ingenious Dutchman, of the service in which the writer was engaged at the periods of his visits, persisted in calling it "Blubber" Bay; its name is due to the visit of H.M.S. *Plover* in 1848-9, when engaged in the search for Sir John Franklin. The bay is a most secure haven, sheltered at the ocean end by a long spit, and walled in on three sides by rugged mountains and bare cliffs, the former composed of an infinite number of fragments of rock, split up by the action of frost. Besides many coloured lichens and mosses, there is hardly a sign of vegetation, except at one patch of country near a small inner harbour, where domesticated reindeer graze. On the spit before mentioned is a village of Tchuktchi natives; their tents are composed of hide, walrus, seal, or reindeer, with here and there a piece of old sail-cloth, obtained from the whalers, the whole patchwork covering a framework formed of the large bones of whales and walrus. The remains of underground houses are seen, but the people who used them have passed away. The present race makes no use of such houses. Their canoes are of skin, covering sometimes a wooden and sometimes a bone frame. On either side of one of these craft, which is identical with the Greenland "oomiak," or women's boat, it is usual to have a sealskin blown out tight, and the ends fastened to the gunwale; these serve as floats to steady the canoe. They often carry sail, and proceed safely far out to sea, even crossing Bering Straits to the American side. The natives are a hardy race; the writer has seen one of them carry the awkward burden of a carpenter's chest, weighing two hundred pounds, without apparent exertion. One of their principal men was of considerable service to the expedition and to a party of telegraph constructors, who were left there in a wooden house made in San Francisco, and erected in a few days in this barren spot. This native, by name Naukum, was taken down into the engine-room of the telegraph steamer—*G. S. Wright*. He looked round carefully and thoughtfully, and then, shaking his head, said, solemnly, "Too muchee wheel; makee man too muchee think!" His curiosity on board was unappeasable. "What's that fellow?" was his query with regard to anything, from the donkey-engine to the hencoops. Colonel Bulkley gave him a suit of mock uniform, gorgeous with buttons. One of the men remarked to him, "Why, Naukum, you'll be a king soon!" But this magnificent prospect did not seem, judging from the way he received it, to be much to his taste. This man had been sometimes entrusted with as much as five barrels of villainous whisky for trading purposes, and he had always accounted satisfactorily to the trader for its use. The whisky sold to the natives is of the most horrible kind, scarcely superior to "coal oil" or paraffine. They appeared to understand the telegraph scheme in a general way. One explaining it, said, "S'pose lope fixy, well; one Melican man Plower Bay, make talky all same San Flancisco Melican." Perhaps quite as lucid an explanation as you could get from an agricultural labourer or a street arab at home.

Colonel Bulkley, at his second visit to Plover Bay, caused a small house of planks

* Captain Scammon, detailed from the United States Revenue Service, to take the post of Chief of Marine in the telegraph expedition on which the writer served, made a series of soundings. For nearly two *degrees* (between latitudes 64° and 66° N.) the average depth is under 19½ fathoms.

to be constructed for Naukum, and made him many presents. A draughtsman attached to the party made a sketch, "A Dream of the Future," which was a lively representation of the future prospects of Naukum and his family. The room was picturesque with paddles, skins, brand-new Henry rifles, preserved meat tins, &c.; and civilisation was triumphant.

Although Plover Bay is almost in sight of the Arctic Ocean, very little snow remained on the barren country round it, except on the distant mountains, or in deep ravines, where it has lain for ages. "That there snow," said one of the sailors, pointing to such a spot, "is three hundred years old if it's a day. Why, don't you see the wrinkles all over the face of it?" Wrinkles and ridges are common enough in snow; but the idea of associating age with them was original.

The whalers are often very successful in and outside Plover Bay in securing their prey. Each boat is known by its own private mark—a cross, red stripes, or what not—on its sail, so that at a distance they can be distinguished from their respective vessels. When the whale is harpooned, often a long and dangerous job, and is floating dead in the water, a small flag is planted in it. After the monster is towed alongside the vessel, it is cut up into large rectangular chunks, and it is a curious and not altogether pleasant sight to witness the deck of a whaling ship covered with blubber. This can be either barreled, or the oil "tryed out" on the spot. If the latter, the blubber is cut into "mincemeat," and chopping knives, and even mincing machines, are employed. The oil is boiled out on board, and the vessel when seen at a distance looks as if on fire. On these occasions the sailors have a feast of dough-nuts, which are cooked in boiling whale-oil, fritters of whale brain, and other dishes. The writer has tasted whale in various shapes, but although it is eatable, it is by no means luxurious food.

It was in these waters of Bering Sea and the Arctic that the *Shenandoah* played such havoc during the American war. In 1865 she burned *thirty* American whalers, taking off the officers and crews, and sending them down to San Francisco. The captain of an English whaler, the *Robert Tawns*, of Sydney, had warned and saved some American vessels, and was in consequence threatened by the pirate captain. The writer was an eye-witness of the results of this wanton destruction of private property. The coasts were strewed with the remains of the burned vessels, while the natives had boats, spars, &c., in numbers.

But Plover Bay has an interest attaching to it of far more importance than anything to be said about whaling or Arctic expeditions. It is more than probable that from or near that bay the wandering Tunguse, or Tchuktchi, crossed Bering Straits, and peopled America. The latter, in canoes holding fifteen or twenty persons, do it now; why not in the "long ago?" The writer has, in common with many who have visited Alaska (formerly Russian-America, before the country was purchased by the United States), remarked the almost Chinese or Japanese cast of features possessed by the coast natives of that country. Their Asiatic origin could not be doubted, and, on the other hand, Aleuts—natives of the Aleutian Islands, which stretch out in a grand chain from Alaska—who had shipped as sailors on the Russo-American Telegraph Expedition, and a Tchuktchi

boy brought down to be educated, were constantly taken for Japanese or Chinamen in San Francisco, where there are 20,000 of the latter people. Junks have on two occasions been driven across the Pacific Ocean, and have landed their crews.* These facts occurred in 1832-3; the first on the coast near Cape Flattery, North-west America, and the second in the harbour of Oahu, Sandwich (Hawaiian) Islands. In the former case all the crew but two men and a boy were killed by the natives. In the latter case,

WHALERS AT WORK.

however, the Sandwich Islanders treated the nine Japanese, forming the crew of the junk, with kindness, and, when they saw the strangers so much resembling them in many respects, said, "It is plain, now, we come from Asia." How easily, then, could we account for the peopling of any island or coast in the Pacific. Whether, therefore, stress of weather obliged some unfortunate Chinamen or Japanese to people America, or whether they, or, at all events, some Northern Asiatics, took the "short sea route," *viâ* Bering Straits,

* *Vide* Washington Irving's "Astoria;" also, Sir Edward Belcher's "Voyage of the *Sulphur*."

there is a very strong probability in favour of the New World having been peopled from not merely the Old World, but the Oldest World—Asia.

The Pacific Ocean generally bears itself in a manner which justifies its title. The long sweeps of its waves are far more pleasant to the sailor than the "choppy" waves of

OUR "PATENT SMOKE-STACK."

the Atlantic. But the Pacific is by no means always so, as the writer very well knows. He will not soon forget November, 1865, nor will those of his companions who still survive.

Leaving Petropaulovski on November 1st, a fortnight of what sailors term "dirty weather" culminated in a gale from the south-east. It was no "capful of wind," but a veritable tempest, which broke over the devoted ship. At its outset, the wind was so powerful that it blew the main-boom from the ropes which held it, and it swung round with great violence

against the "smoke-stack" (funnel) of the steamer, knocking it overboard. The guys, or chains by which it had been held upright, were snapped, and it went to the bottom. Here was a dilemma; the engines were rendered nearly useless, and a few hours later were made absolutely powerless, for the rudder became disabled, and the steering-wheel was utterly unavailable. During this period a very curious circumstance happened; the sea driving faster than the vessel—itself a log lying in the trough of the waves, which rose in mountains on all sides—acted on the screw in such a manner that in its turn it worked the engines at a greater rate than they had ever attained by steam! After much trouble the couplings were disconnected, but for several hours the jarring of the machinery revolving at lightning speed threatened to make a breach in the stern.

No one on board will soon forget the night of that great gale. The vessel, scarcely larger than a "penny" steamer, and having "guards," or bulwarks, little higher than the rail of those boats, was engulfed in the tempestuous waters. It seemed literally to be driving under the water. Waves broke over it every few minutes; a rope had to be stretched along the deck for the sailors to hold on by, while the brave commander, Captain Marston, was literally *tied* to the aft bulwark, where, half frozen and half drowned, he remained at his post during an entire night. The steamer had the "house on deck," so common in American vessels. It was divided into state-rooms, very comfortably fitted, but had doors and windows of the lightest character. At the commencement of the gale, these were literally battered to pieces by the waves dashing over the vessel; it was a matter of doubt whether the whole house might not be carried off bodily. The officers of the expedition took refuge in the small cabin aft, which had been previously the general ward-room of the vessel, where the meals were served. A great sea broke over its skylight, smashing the glass to atoms, putting out the lamps and stove, and filling momentarily the cabin with about three feet of water. A landsman would have thought his last hour had come. But the hull of the vessel was sound; the pumps were in good order, and worked steadily by a "donkey" engine in the engine-room, and the water soon disappeared. The men coiled themselves up that night amid a pile of ropes and sails, boxes, and miscellaneous matters lying on the "counter" of the vessel, *i.e.*, that part of the stern lying immediately over the rudder. Next morning, in place of the capital breakfasts all had been enjoying—fish and game from Kamchatka, tinned fruits and meats from California, hot rolls and cakes—the steward and cook could only, with great difficulty, provide some rather shaky coffee and the regular "hard bread" (biscuit) of the ship.

The storm increased in violence; it was unsafe to venture on deck. The writer's room-mate, M. Laborne, a genial and cultivated man of the world, who spoke seven languages fluently, sat down, and wrote a last letter to his mother, enclosing it afterwards in a bottle. "It will never reach her," said poor Laborne, with tears dimming his eyes; "but it is all I can do." Each tried to comfort the other, and prepare for the worst. "If we are to die, let us die like men," said Adjutant Wright. "Come down in the engine-room," another said, "and if we've got to die, let's die decently." The chief engineer lighted a fire on the iron floor below the boilers, and it was the only part of the vessel which was at all comfortable. Noble-hearted

Colonel Bulkley spent his time in cheering the men, and reminding them that the sea has been proved to be an infinitely safer place than the land. No single one on board really expected to survive. Meantime, the gale was expending its rage by tearing every sail to ribbons. Rags and streamers fluttered from the yards; there was not a single piece of canvas intact. The cabins held a wreck of trunks, furniture, and crockery.

In one of the cabins several boxes of soap, in bars, had been stored. When the gale commenced to abate, some one ventured into the house on deck, when it was discovered that it was full of soapsuds, which swashed backwards and forwards through the series of rooms. The water had washed and rewashed the bars of soap till they were not thicker than sticks of sealing-wax.

At last, after a week of this horrible weather, morning broke with a sight of the sun, and moderate wind. There were spare sails on board, and the rudder could be repaired; but what could be done about the funnel? The engineer's ingenuity came out conspicuously. He had one of the usual water-tanks brought on deck, and the two ends knocked out. Then, setting it up over the boiler, he with pieces of sheet-iron raised this square erection till it was about nine feet high, and it gave a sufficient draught to the furnaces. "Covert's Patent Smoke-Stack" created a sensation on the safe arrival of the vessel in San Francisco, and was inspected by hundreds of visitors. The little steamer had ploughed through 10,000 miles of water that season. She was immediately taken to one of the wharfs, and entirely remodelled. The sides were slightly raised, and a ward-room and aft-cabin, handsomely fitted in yacht-fashion, took the place of the house on deck. It was roofed or decked at top in such a manner that the heaviest seas could wash over the vessel without doing the slightest injury, and she afterwards made two voyages, going over a distance of 20,000 miles. Poor old *Wright!* She went to the bottom at last, with all her crew and passengers, some years later, off Cape Flattery, at the entrance of the Straits of Fuca, and scarcely a vestige of her was ever found.

And now, retracing our steps *en route* for the Australian station, let us call at one of the most important of England's settlements, which has been termed the Liverpool of the East. Singapore consists of an island twenty-five miles long and fifteen or so broad, lying off the south extremity of Malacca, and having a city of the same name on its southern side. The surface is very level, the highest elevation being only 520 feet. In 1818, Sir Stamford Raffles found it an island covered with virgin forests and dense jungles, with a miserable population on its creeks and rivers of fishermen and pirates. It has now a population of about 100,000, of which Chinese number more than half. In 1819 the British flag was hoisted over the new settlement; but it took five years on the part of Mr. Crawford, the diplomatic representative of Great Britain, to negotiate terms with its then owner, the Sultan of Johore, whereby for a heavy yearly payment it was, with all the islands within ten miles of the coast, given up with absolute possession to the Honourable East India Company. Since that period, its history has been one of unexampled prosperity. It is a free port, the dues on shipping being of the very lightest. Its great prosperity as a commercial port is due to the fact that it is an entrepôt for the whole trade of the Malayan Archipelago, the Eastern Archipelago, Cochin China, Siam, and

Java. Its exports include gambier, tin, pepper, nutmegs, coffee, tortoise-shell, rare woods, sago, tapioca, camphor, gutta-percha, and rattans. Exclusive of innumerable native craft, as many as 2,000 steam and sailing vessels enter the port annually. It has two splendid harbours, one a sheltered roadstead near the town, with safe anchorage; the other, a land-locked harbour, three miles from the town, capable of admitting vessels of the largest draught. Splendid wharves have been erected by the many steam-ship companies and merchants, and there are fortifications which command the harbour and roads.

"A great deal has been written about the natural beauties of Ceylon and Java," says Mr. Cameron,* "and some theologians, determined to give the first scene in the Mosaic narrative a local habitation, have fixed the paradise of unfallen man on one or other of those noble islands. Nor has their enthusiasm carried them to any ridiculous extreme; for the beauty of some parts of Java and Ceylon might well accord with the description given us, or rather which we are accustomed to infer, of that land from which man was driven on his first great sin.

"I have seen both Ceylon and Java, and admired in no grudging measure their many charms; but for calm placid loveliness, I should place Singapore high above them both. It is a loveliness, too, that at once strikes the eye, from whatever point we view the island, which combines all the advantages of an always beautiful and often imposing coast-line, with an endless succession of hill and dale stretching inland. The entire circumference of the island is one panorama, where the magnificent tropical forest, with its undergrowth of jungle, runs down at one place to the very water's edge, dipping its large leaves in the glassy sea, and at another is abruptly broken by a brown rocky cliff, or a late landslip, over which the jungle has not yet had time to extend itself. Here and there, too, are scattered little green islands, set like gems on the bosom of the hushed waters, between which the excursionist, the trader, or the pirate, is wont to steer his course. 'Eternal summer gilds these shores;' no sooner has the blossom of one tree passed away, than that of another takes its place and sheds perfume all around. As for the foliage, that never seems to die. Perfumed isles are in many people's minds merely fabled dreams, but they are easy of realisation here. There is scarcely a part of the island, except those few places where the original forest and jungle have been cleared away, from which at night-time, on the first breathings of the land winds, may not be felt those lovely forest perfumes, even at the distance of more than a mile from shore. These land winds—or, more properly, land airs, for they can scarcely be said to blow, but only to breathe—usually commence at ten o'clock at night, and continue within an hour or two of sunrise. They are welcomed by all—by the sailor because they speed him on either course, and by the wearied resident because of their delicious coolness."

Another writer† speaks with the same enthusiasm of the well-kept country roads, and approaches to the houses of residents, where one may travel for miles through unbroken avenues of fruit-trees, or beneath an over-arching canopy of evergreen palms. The long and well-kept approaches to the European dwellings never fail to win the praise of

* "Our Tropical Possessions in Malayan India," by John Cameron, Esq.

† J. Thomson, "The Straits of Malacca, Indo-China, and China."

strangers. "In them may be discovered the same lavish profusion of overhanging foliage which we see around us on every side; besides that, there are often hedges of wild heliotrope, cropped as square as if built up of stone, and forming compact barriers of green leaves, which yet blossom with gold and purple flowers." Behind these, broad bananas nod their bending leaves, while a choice flower-garden, a close-shaven lawn, and

VIEW IN THE STRAITS OF MALACCA.

a croquet-ground, are not uncommonly the surroundings of the residence. If it is early morning, there is an unspeakable charm about the spot. The air is cool, even bracing; and beneath the shade of forest trees, the rich blossom of orchids are seen depending from the boughs, while songless birds twitter among the foliage, or beneath shrubs which the convolvulus has decked with a hundred variegated flowers. Here and there the slender stem of the aloe, rising from an armoury of spiked leaves, lifts its cone of white bells on high, or the deep orange pine-apple peeps out from a green belt of fleshy foliage, and breathes its bright fragrance around. The house will invariably have a spacious verandah,

underneath which flowers in China vases, and easy chairs of all kinds, are placed. If perfect peace can steal through the senses into the soul—if it can be distilled like some subtle ether from all that is beautiful in nature—surely in such an island as this we shall find that supreme happiness which we all know to be unattainable elsewhere." Alas! even in this bright spot, unalloyed bliss cannot be expected. The temperature is very high, showing an average in the shade, all the year round, of between 85° and 95° Fahr. Prickly heat, and many other disorders, are caused by it on the European constitution.

The old Strait of Singhapura, that lies between the island of Singapore and the mainland of Johore, is a narrow tortuous passage, for many centuries the only thoroughfare for ships passing to the eastward of Malacca. Not many years ago, where charming bungalows, the residences of the merchants, are built among the ever verdant foliage, it was but the home of hordes of piratical marauders, who carried on their depredations with a high hand, sometimes adventuring on distant voyages in fleets of forty or fifty prahus. Indeed, it is stated, in the old Malay annals, that for nearly two hundred years the entire population of Singapore and the surrounding islands and coasts of Johore subsisted on fishing and pirating; the former only being resorted to when the prevailing monsoon was too strong to admit of the successful prosecution of the latter. Single cases of piracy sometimes occur now; but it has been nearly stopped. Of the numberless vessels and boats which give life to the waters of the old strait, nearly all have honest work to do—fishing, timber carrying, or otherwise trading. "A very extraordinary flotilla," says Mr. Cameron, "of a rather nondescript character may be often seen in this part of the strait at certain seasons of the year. These are huge rafts of unsawn, newly-cut timber; they are generally 500 or 600 feet long, and sixty or seventy broad, the logs being skilfully laid together, and carefully bound by strong rattan-rope, each raft often containing 2,000 logs. They have always one or two attap-houses built upon them, and carry crews of twenty or twenty-five men, the married men taking their wives and children with them. The timber composing them is generally cut many miles away, in some creek or river on the mainland." They sometimes have sails. They will irresistibly remind the traveller of those picturesque rafts on the Rhine, on which there are cabins, with the smoke curling from their stove-pipes, and women, children, and dogs, the men with long sweeps keeping the valuable floating freight in the current. Many a German, now in England or America, made his first trip through the Fatherland to its coast on a Rhine raft.

The sailor generally makes his first acquaintance with the island of Singapore by entering through New Harbour, and the scenery is said to be almost unsurpassed by anything in the world. The steamer enters between the large island and a cluster of islets, standing high out of the water with rocky banks, and covered to their summits by rich green jungle, with here and there a few forest trees towering above it high in the air. Under the vessel's keel, too, as she passes slowly over the shoaler patches of the entrance, may be seen beautiful beds of coral, which, in their variegated colours and fantastic shapes, vie with the scenery above. The Peninsular and Oriental Steamers' wharfs are situated at the head of a small bay, with the island of Pulo Brani in front. They have a frontage of 1,200 feet, and coal sheds built of brick, and tile-roofed; they often

contain 20,000 tons of coal. Including some premises in Singapore itself, some £70,000 or £80,000 have been expended on their station—a tolerable proof of the commercial importance of the place. Two other companies have extensive wharfs also. The passengers land here, and drive up to the city, a distance of some three miles. Those who remain on board, and "Jack" is likely to be of the number, for the first few days after arrival, find entertainment in the feats of swarms of small Malay boys, who immediately surround the vessel in toy boats just big enough to float them, and induce the passengers to throw small coins into the water, for which they dive to the bottom, and generally succeed in recovering. Almost all the ships visiting Singapore have their bottoms examined, and some have had as many as twenty or thirty sheets of copper put on by Malay divers. One man will put on as many as two sheets in an hour, going down a dozen or more times. There are now extensive docks at and around New Harbour.

On rounding the eastern exit of New Harbour, the shipping and harbour of Singapore at once burst on the view, with the white walls of the houses, and the dark verdure of the shrubbery of the town nearly hidden by the network of spars and rigging that intervenes. The splendid boats of the French Messageries, and our own Peninsular and Oriental lines, the opium steamers of the great firm of Messrs. Jardine, of China, and Messrs. Cama, of Bombay; and the beautifully-modelled American or English clippers, which have taken the place of the box-shaped, heavy-rigged East Indiamen of days of yore, with men-of-war of all nations, help to make a noble sight. This is only part of the scene, for interspered are huge Chinese junks of all sizes, ranging up to 600 or 700 tons measurement. The sampans, or two-oared Chinese boats, used to convey passengers ashore, are identical in shape. All have alike the square bow and the broad flat stern, and from the largest to the smallest, on what in a British vessel would be called her "head-boards," all have two eyes embossed and painted, glaring out over the water. John Chinaman's explanation of this custom is, that if "no got eyes, no can see." During the south-west monsoon they are in Singapore by scores, and of all colours, red, green, black, or yellow; these are said to be the badge of the particular province to which they belong. Ornamental painting and carving is confined principally to the high stern, which generally bears some fantastic figuring, conspicuous in which can invariably be traced the outlines of a spread eagle, not unlike that on an American dollar. Did "spread-eagleism" as well as population first reach America from China?

"It is difficult," says Mr. Cameron, "while looking at these junks, to imagine how they can manage in a seaway; and yet at times they must encounter the heaviest weather along the Chinese coast in the northern latitudes. It is true that when they encounter a gale they generally run before it; but yet in a typhoon this would be of little avail to ease a ship. There is no doubt they must possess some good qualities, and, probably, speed, with a fair wind in a smooth sea, is one of them. Not many years ago a boat-builder in Singapore bought one of the common sampans used by the coolie boatmen, which are exactly the same shape as the junks, and rigged her like an English cutter, giving her a false keel, and shifting weather-board, and, strange to say, won with her every race that he tried."

Passing the junks at night, a strange spectacle may be observed. Amid the beating

of gongs, jangling of bells, and discordant shouts, the nightly religious ceremonies of the sailors are performed. Lanterns are swinging, torches flaring, and gilt paper burning, while quantities of food are scattered in the sea as an offering of their worship. Many of those junks, could they but speak, might reveal a story, gentle reader—

JUNKS IN A CHINESE HARBOUR.

> "A tale unfold, whose lightest word
> Would harrow up thy soul."

The chief trade of not a few has been, and still is, the traffic of human freight; and it is, unfortunately, only too lucrative. Large numbers of junks leave China for the islands annually packed with men, picked up, impressed, or lured on board, and kept there till the gambier and pepper planters purchase them, and hurry them off to the interior. It is not so much that they usually have to complain of cruelty, or even an unreasonably long term of servitude; their real danger is in the overcrowding of the vessels that bring them. The men cost nothing, except a meagre allowance of rice, and the more the shipper can crowd into his vessel the greater must be his profit. "It would," says the writer just quoted, "be a better speculation for the trader whose junk could only carry properly 300 men, to take on board 600 men, and lose 250 on the way down, than it would be for him to start with his legitimate number, and land them all safely; for in the first case, he would bring 350 men to market, and in the other only 300. That this process of reasoning is actually put in practice by the Chinese, there was not long ago ample and very mournful evidence to prove. Two of these junks had arrived in the harbour of Singapore, and had remained unnoticed for about a week, during which the owners had bargained for the engagement of most of their cargo. At this time two dead bodies

ISLANDS IN THE STRAITS OF MALACCA.

were found floating in the harbour; an inquest was held, and it then transpired that one of these two junks on the way down from China had lost 250 men out of 600, and the other 200 out of 400."

The Malay prahus are the craft of the inhabitants of the straits, and are something like the Chinese junks, though never so large as the largest of the latter, rarely exceeding fifty or sixty tons burden. They have one mast, a tripod made of three bamboos, two

CHINESE JUNK AT SINGAPORE.

or three feet apart at the deck, and tapering up to a point at the top. Across two of the bamboos smaller pieces of the same wood are lashed, making the mast thus act as a shroud or ladder also. They carry a large lug-sail of coarse grass-cloth, having a yard both at top and bottom. The curious part of them is the top hamper about the stem. With the deck three feet out of the water forward, the top of the housing is fifteen or more feet high. They are steered with two rudders, one on either quarter. In addition to the ships and native craft, are hundreds of small boats of all descriptions constantly moving about with fruits, provisions, birds, monkeys, shells, and corals for sale. The sailor

has a splendid chance of securing, on merely nominal terms, the inevitable parrot, a funny little Jocko, or some lovely corals, of all hues, green, purple, pink, mauve, blue, and in shape often resembling flowers and shrubbery. A whole boat-load of the latter may be obtained for a dollar and a half or a couple of dollars.

Singapore has a frontage of three miles, and has fine Government buildings, court-house, town-hall, clubs, institutes, masonic lodge, theatre, and the grandest English cathedral in Asia—that of St. Andrew's. In Commercial Square, the business centre of Singapore, all nationalities seem to be represented. Here, too, are the Kling gharry-drivers, having active little ponies and neat conveyances. Jack ashore will be pestered with their applications. "These Klings," says Mr. Thomson, "seldom, if ever, resort to blows; but their language leaves nothing for the most vindictive spirit to desire. Once, at one of the landing-places, I observed a British tar come ashore for a holiday. He was forthwith beset by a group of Kling gharry-drivers, and, finding that the strongest of British words were as nothing when pitted against the Kling vocabulary, and that no half-dozen of them would stand up like men against his huge iron fists, he seized the nearest man, and hurled him into the sea. It was the most harmless way of disposing of his enemy, who swam to a boat, and it left Jack in undisturbed and immediate possession of the field." The naval officer will find excellent deer-hunting and wild-hog shooting to be had near the city, and tiger-hunting at a distance. Tigers, indeed, were formerly terribly destructive of native life on the island; it was said that a man *per diem* was sacrificed. Now, cases are more rare. For good living, Singapore can hardly be beaten; fruit in particular is abundant and cheap. Pine-apples, cocoa-nuts, bananas of thirty varieties, mangoes, custard-apples, and oranges, with many commoner fruits, abound. Then there is the mangosteen, the delicious "apple of the East," thought by many to surpass any fruit in the world, and the durian, a fruit as big as a boy's head, with seeds as big as walnuts enclosed in a pulpy, fruity custard. The taste for this fruit is an acquired one, and is impossible to describe, while the smell is most disgusting. So great is the longing for it, when once the taste *is* acquired, that the highest prices are freely offered for it, particularly by some of the rich natives. A former King of Ava spent enormous sums over it, and could hardly then satisfy his rapacious appetite. A succeeding monarch kept a special steamer at Rangoon, and when the supplies came into the city it was loaded up, and dispatched at once to the capital—500 miles up a river. The smell of the durian is so unpleasant that the fruit is never seen on the tables of the merchants or planters; it is eaten slily in corners, and out of doors.

And Jack ashore will find many other novelties in eating. Roast monkey is obtainable, although not eaten as much as formerly by the Malays. In the streets of Singapore a meal of three or four courses can be obtained for three halfpence from travelling *restaurateurs*, always Chinamen, who carry their little charcoal stoves and soup-pots with them. The authority principally quoted says that, contrary to received opinion, they are very clean and particular in their culinary arrangements. One must not, however, too closely examine the nature of the viands. And now let us proceed to the Australian Station, which includes New Guinea, Australia proper, and New Zealand.

This is a most important colony of Great Britain, although by no means its most

important possession, a country as English as England itself, tempered only by a slight colonial flavour. Here Jack will find himself at home, whether in the fine streets of Melbourne, or the older and more pleasant city of Sydney, with its beautiful surroundings.

When the seventeenth century was in its early youth, that vast ocean which stretches from Asia to the Antarctic was scarcely known by navigators. The coasts of Eastern Africa, of India, and the archipelago of islands to the eastward, were partially explored; but while there was a very strong belief that a land existed in the southern hemisphere, it was an inspiration only based on probabilities. The pilots and map-makers put down, as well as they were able, the discoveries already made; *must* there not be *some* great island or continent to balance all that waste of water which they were forced to place on the southern hemisphere? Terra Australis, "the Southern Land," was therefore in a sense discovered before its discovery, just as the late Sir Roderick Murchison predicted gold there before Hargreaves found it.*

In the year 1606, Pedro Fernando de Quiros started from Peru on a voyage of discovery to the westward. He found some important islands, to which he gave the name "Australia del Espiritu Santo," and which are now believed to have been part of the New Hebrides group. The vessel of his second in command became separated in consequence of a storm, and by this Luis vas Torres in consequence reached New Guinea and Australia proper, besides what is now known as Torres Straits, which channel separates them. The same year a Dutch vessel coasted about the Gulf of Carpentaria, and it is to the persistent efforts of the navigators of Holland that the Australian coasts became well explored. From 1616, at intervals, till 1644, they instigated many voyages, the leading ones of which were the two made by Tasman, in the second of which he circumnavigated Australia. "New Holland" was the title long applied to the western part of Australia—sometimes, indeed, to the whole country.

The voyages of the Dutch had not that glamour of romance which so often attaches to those of the Spanish and English. They did not meet natives laden with evidences of the natural wealth of their country, and adorned by barbaric ornaments. On the contrary, the coasts of Australia did not appear prepossessing, while the natives were wretched and squalid. Could they have known of its after-destiny, England might not hold it to-day. When Dampier, sent out by William III. more than fifty years afterwards, re-discovered the west coast of Australia, he had little to record more than the number of sharks on the coast, his astonishment at the kangaroos jumping about on shore, and his disgust for the few natives he met, whom he described as "the most unpleasant-looking and worst-featured of any people" he had ever encountered.

Nearly seventy years elapsed before any other noteworthy discovery was made in regard to Australia. In Captain Cook's first voyage, in 1768, he explored and partially surveyed the eastern part of its coasts, and discovered the inlet, to which a considerable notoriety afterwards clung, which he termed Botany Bay, on account of the luxuriant vegetation

* It is stated that an old man, named Macgregor, had long before been in the habit of bringing once a year to Sydney small pieces of gold, which he always sold to a jeweller there, and also that a convict had been whipped for having lumps of gold in his possession prior to the above. Hargreaves' claim rests both on the actual amount discovered, and on his publishing the fact at once.

SINGAPORE, LOOKING SEAWARDS.

of its shores. Rounding the western side, he proceeded northwards to Torres Straits, near which, on a small island off the mainland, he took possession of the whole country, in the name of his sovereign, George III., christening it *New South Wales*. It is still called *Possession* Island. Captain Cook gave so favourable an account of Botany Bay on his return, that it was determined at once to form a colony, in which convict labour should be systematically employed. Accordingly, a fleet of eleven vessels, under Captain Phillip, left Portsmouth on the 13th of May, 1787, and after a tedious voyage, reached Botany Bay the following January.

Captain Phillip found the bay was not a safe anchorage, and in other respects was unsuitable. A few miles to the northward he discovered an inlet, now named Port Jackson—from the name of the seaman who discovered it—and which had been overlooked by Cook. The fleet was immediately removed thither, the convicts landed, and the British flag raised on the banks of Sydney Cove. Of the thousand individuals who formed this first nucleus of a grand colony, more than three-fourths were convicted offenders. For some time they were partially dependent on England for supplies. It had been arranged that they should not, at first, be left without sufficient provisions. The first ship sent out after the colonists had been landed for this purpose was struck by an iceberg in the neighbourhood of the Cape of Good Hope, and might not have been saved at all, but for the seamanship of the "gallant, good Riou," who afterwards lost his life at the battle of Copenhagen. He managed to keep her afloat, and she was at length towed into Table Bay, and a portion of her stores saved. Meantime, the colonists were living "in the constant belief that they should one day perish of hunger." Governor Phillip set a noble example by putting himself on the same rations as the

meanest convict; and when on state occasions he was obliged to invite the officers of the colony to dine with him at the Government House, he used to intimate to the guests that "they must bring their bread along with them." At last, in June, 1790, some stores arrived; and in the following year a second fleet of vessels came out from England, one ship of the Royal Navy and ten transports; 1,763 convicts had left England on board the latter, of whom nearly 200 died on the voyage, and many more on arrival. The number of free settlers was then, and long afterwards, naturally very small; they did not like to be so intimately and inevitably associated with convicted criminals. In 1810 the total population of Australia was about 10,000. In 1836 it had risen to 77,000, two-fifths of whom were convicts in actual bondage, while of the remainder, a large proportion had at one time been in the same condition. Governor King, one of the earlier officials of the colony, complained that "he could not make farmers out of pickpockets;" and Governor Macquarie later said that "there were only two classes of individuals in New South Wales—those who had been convicted, and those who ought to have been." Under these discouraging circumstances, coupled with all kinds of other difficulties, the colony made slow headway. Droughts and inundations, famine or scarcity, and hostility on the part of the natives, helped seriously to retard its progress. About the period of Sir Thomas Brisbane's administration, there was an influx of a better class of colonists, owing to the inauguration of free emigration. In 1841, transportation to New South Wales ceased. Ten years later the discovery of gold by Mr. E. H. Hargreaves (on the 12th of February, 1851) caused the first great "rush" to the colony, which influx has since continued, partly for better reasons than gold-finding—the grand chances offered for stock-raising, agricultural, horticultural, and vinicultural pursuits.

LOOKING DOWN ON SINGAPORE.

To the north and south of Sydney, the coast is a nearly unbroken range of iron-bound cliffs. But as a vessel approaches the shore, a narrow entrance, between the two "Heads" of Port Jackson, as they are called, discloses itself. It is nowhere greater than a mile in width, and really does not appear so much, on account of the height of the cliffs. On entering the harbour a fine sea-lake appears in view, usually blue and calm, and in one of its charming inlets is situated the city of Sydney. "There is not," writes Professor Hughes, "a more thoroughly English town on the face of the globe—not even in England itself—than this southern emporium of the commerce of nations. Sydney is entirely wanting in the novel and exotic aspect which belongs to foreign capitals. The emigrant lands there, and hears his own mother tongue spoken on every side; he looks around upon the busy life of its crowded streets, and he gazes on scenes exactly similar to those daily observable in the highways of London, Liverpool, Birmingham, or Manchester . . . 'Were it not,' says Colonel Mundy, 'for an occasional orange-tree in full bloom, or fruit in the background of some of the older cottages, or a flock of little green parrots whistling as they alight for a moment on a house-top, one might fancy himself in Brighton or Plymouth.'" * Gay equipages crowd its streets, which are lined with handsome shops; the city abounds in fine public buildings. In the outskirts of the city are flour-mills of all kinds, worked by horse, water, wind, and steam; great distilleries and breweries, soap and candle works, tanneries, and woollen-mills, at the latter of which they turn out an excellent tweed cloth. Ship-building is carried on extensively around Port Jackson. Although now overshadowed by the commercial superiority of Melbourne, it has the pre-eminence as a port. In fact, Melbourne is not a sea-port at all, as we shall see. Vessels of large burdens can lie alongside the wharves of Sydney, and "Jack," in the Royal Navy at least, is more likely to stop there for awhile, than ever to see Melbourne. He will find it a cheap place in most respects, for everywhere in New South Wales meat is excessively low-priced; they used formerly to throw it away, after taking off the hides and boiling out the fat, but are wiser now, and send it in tins all over the world. Such fruits as the peach, nectarine, apricot, plum, fig, grape, cherry, and orange are as plentiful as blackberries. The orangeries and orchards of New South Wales are among its sights; and in the neighbourhood of Sydney and round Port Jackson there are beautiful groves of orange-trees, which extend in some places down to the water's edge. Individual settlers have groves which yield as many as thirty thousand dozen oranges per annum. One may there literally "sit under his own vine and fig-tree." If a peach-stone is thrown down in almost any part of Australia where there is a little moisture, a tree will spring up, which in a few years will yield handsomely. A well-known botanist used formerly to carry with him, during extensive travels, a small bag of peach-stones to plant in suitable places, and many a wandering settler has blessed him since. Pigs were formerly often fed on peaches, as was done in California, a country much resembling Southern Australia; it is only of late years they have been utilised in both places by drying or otherwise preserving. A basket-load may be obtained in the Sydney markets during the season for a few pence. The summer heat of Sydney is about that of Naples, while its winter corresponds with that of Sicily.

* "The Australian Colonies: their Origin and Present Condition."

But are there no drawbacks to all this happy state of things? Well, yes; about the worst is a hot blast which sometimes blows from the interior, known popularly in Sydney as a "brick-fielder" or "southerly buster." It is much like that already described, and neither the most closely-fastened doors nor windows will keep out the fearful dust-storm. "Its effect," says Professor Hughes, "is particularly destructive of every sense of comfort; the dried and dust-besprinkled skin acquiring for the time some resemblance to parchment, and the hair feeling more like hay than any softer material."

Should Jack or his superior officers land during the heat of autumn, he may have the opportunity of passing a novel Christmas—very completely un-English. The gayest and brightest flowers will be in bloom, and the musquitoes out in full force. "Sitting," says a writer, "in a thorough draught, clad in a holland blouse, you may see men and boys dragging from the neighbouring bush piles of green stuff (oak-branches in full leaf and acorn, and a handsome shrub with a pink flower and pale green leaf—the "Christmas" of Australia, for the decoration of churches and dwellings, and stopping every fifty yards to wipe their perspiring brows."

Before leaving Sydney, the grand park, called "The Domain," which stretches down to the blue water in the picturesque indentations around Port Jackson, must be mentioned. It contains several hundred acres, tastefully laid out in drives, and with public walks cut through the indigenous or planted shrubberies, and amidst the richest woodland scenery, or winding at the edge of the rocky bluffs or by the margin of the glittering waters. Adjoining this lovely spot is one of the finest botanic gardens in the world, considered by all Sydney to be a veritable Eden.

Port Phillip, like Port Jackson, is entered by a narrow passage, and immediately inside is a magnificent basin, thirty miles across in almost any direction. It is so securely sheltered that it affords an admirable anchorage for shipping. Otherwise, Melbourne, now a grand city with a population of about 300,000, would have had little chance of attaining its great commercial superiority over any city of Australia. Melbourne is situated about eight miles up the Yarra-Yarra ("flowing-flowing") river, which flows into the head of Port Phillip. That poetically-named, but really lazy, muddy stream is only navigable for vessels of very small draught. But Melbourne has a fine country to back it. Many of the old and rich mining-districts were round Port Phillip, or on and about streams flowing into it. Wheat, maize, potatoes, vegetables and fruits in general, are greatly cultivated; and the colony of Victoria is pre-eminent for sheep-farming and cattle-runs, and the industries connected with wool, hides, tallow, and, of late, meat, which they bring forth. Melbourne itself lies rather low, and its original site, now entirely filled in, was swampy. Hence came occasional epidemics—dysentery, influenza, and so forth.

A TIMBER WHARF AT SAN FRANCISCO.

CHAPTER X.

Round the World on a Man-of-War (*continued*).

THE PACIFIC STATION.

Across the Pacific—Approach to the Golden Gate—The Bay of San Francisco—The City—First Dinner Ashore—Cheap Luxury—San Francisco by Night—The Land of Gold, Grain, and Grapes—Incidents of the Early Days—Expensive Papers—A Lucky Sailor—Chances for English Girls—The Baby at the Play—A capital Port for Seamen—Hospitality of Californians—Victoria, Vancouver Island—The Naval Station at Esquimalt—A Delightful Place—Advice to Intending Emigrants—British Columbian Indians—Their fine Canoes—Experiences of the Writer—The Island on Fire—The Chinook Jargon—Indian "Pigeon-English"—North to Alaska—The Purchase of Russian America by the United States—Results—Life at Sitka—Grand Volcanoes of the Aleutian Islands—The Great Yukon River—American Trading Posts round Bering Sea.

A common course for a vessel crossing the Pacific would be from Australia or New Zealand to San Francisco, California. The mail-steamers follow this route, touching at the Fiji and Hawaiian groups of islands; and the sailor in the Royal Navy is as likely to find this route the orders of his commander as any other. If the writer, in describing the country he knows better than any other, be found somewhat enthusiastic and gushing, he will at least give reasons for his warmth. On this subject, above all others, he writes

con amore. He spent over twelve years on the Pacific coasts of America, and out of that time about seven in the Golden State, California.

It has been said, "See Naples, and die!" The reader is recommended to see the glorious Bay of San Francisco before he makes up his mind that there is nought else worthy of note, because he has sailed on the blue waters of the most beautiful of the Mediterranean bays. How well does the writer remember his first sight of the Golden Gate, as the entrance to San Francisco Bay is poetically named! The good steamer on which he had spent some seventy-five days—which had passed over nearly the entire Atlantic, weathered the Horn, and then, with the favouring "trade-winds," had sailed and steamed up the Pacific with one grand sweep to California, out of sight of land the whole time—was sadly in want of coals when she arrived off that coast, which a dense fog entirely hid from view. The engines were kept going slowly by means of any stray wood on board; valuable spars were sacrificed, and it was even proposed to strip the woodwork out of the steerage, which contained about two hundred men, women, and children. Guns and rockets were fired, but at first with no result, and the prospect was not cheering. But at last the welcome little pilot-boat loomed through the fog, and was soon alongside, and a healthy, jovial-looking pilot came aboard. "You can all have a good dinner to-night ashore," said that excellent seaman to the passengers, "and the sea shan't rob you of it." The fog lifted as the vessel slowly steamed onwards.

On approaching the entrance to the bay, on the right cliffs and rocks are seen, with a splendid beach, where carriages and buggies are constantly passing and repassing. On the top of a rocky bluff, the Seal Rock or "Cliff" House, a popular hotel; below it, in the sea, a couple or so of rocky islets covered with sea-lions, which are protected by a law of the State. To the left, outside some miles, the Farralone Islands, with a capital lighthouse perched on the top of one of them. Entering the Golden Gate, and looking to the right again, the Fort Point Barracks and the outskirts of the city; to the left the many-coloured headlands and cliffs, on whose summits the wild oats are pale and golden in the bright sunlight. Before one, several islands—Alcatraz, bristling with guns, and covered with fortifications; Goat Island, presumably so called because on it there are no goats. Beyond, fifty miles of green water, and a forest of shipping; and a city, the history of which has no parallel on earth. Hills behind, with streets as steep as those of Malta; high land, with spires, and towers, and fine edifices innumerable; and great wharves, and slips, and docks in front of all; with steamships and steam ferry-boats constantly arriving and departing. And now the vessel anchors in the stream, and if not caring to haggle over the half-dollar—a large sum in English ears—which the boatman demands from each passenger who wishes to go ashore, the traveller finds himself in a strange land, and amid a people of whom he will learn to form the very highest estimate.

That first dinner, after the eternal bean-coffee, boiled tea, tinned meats, dried vegetables, and "salt horse" of one's ship, in a neat *restaurant*, where it seems everything on earth can be obtained, will surprise most visitors. An irreproachable *potage:* broiled salmon (the fish is a drug, almost, on the Pacific coasts); turtle steaks, oyster plant, artichokes, and green corn; a California quail "on toast;" grand muscatel grapes, green figs, and a cooling slice of melon; Roquefort cheese, or a very good imitation of it; black coffee, and

cigars; native wine on the table; California cognac on demand; service excellent—napkins, hot plates, flowers on the table; price moderate for the luxuries obtained, and *no waiter's fees*. The visitor will mentally forgive the boatman of the morning. Has he arrived in the Promised Land, in the Paradise of *bon vivants?* It seems so. In the evening, he may take a stroll up Montgomery Street, and a good seat at a creditably performed opera may be obtained. Nobody knows better than the sailor and the traveller the splendid luxury of such moments, after a two or three months' monotonous voyage. And, in good sooth, he generally abandons himself to it. He has earned it, and who shall say him nay? The same evening may be, he will go to a 300-roomed hotel—they have now one of 750 rooms—where, for three dollars (12s. 6d.), he can sup, sleep, breakfast, and dine sumptuously. He will be answered twenty questions for nothing by a civil clerk in the office of the hotel, read the papers for nothing in the reading-room, have a bath — for nothing — and find that it is not the thing to give fees to the waiters. It is a new revelation to many who have stopped before in dozens of first-class English and Continental houses.

"Seen," says Mr. W. F. Rae,* "as I saw it for the first time, the appearance of San Francisco is enchanting. Built on a hill-slope, up which many streets run to the top, and illumined as many of these streets were with innumerable gas-lamps, the effect was that of a huge dome ablaze with lamps arranged in lines and circles. Those who have stood in Princes Street at night, and gazed upon the Old Town and Castle of Edinburgh, can form a very correct notion of the fairy-like spectacle. Expecting to find San Francisco a city of wonders, I was not disappointed when it seemed to my eyes a city of magic—such a city as Aladdin might have ordered the genii to create in order to astonish and dazzle the spectator. I was warned by those whom personal experience of the city had taught to distinguish glitter from substance, not to expect that the reality of the morrow would fulfil the promise of the evening. Some of the parts which now appeared the most fascinating were said to be the least attractive when viewed by day. Still, the panorama was deprived of none of its glories by these whispers of well-meant warning." The present writer has crossed the Bay in the ferry and other boats a hundred times, and on a fine night—and they have about nine months of fine nights in California —he never missed the opportunity of going forward towards the bows of the boat when it approached San Francisco. As Mr. Rae writes, "The full-orbed stars twinkling overhead are almost rivalled by the myriads of gas-lights illuminating the land." Less than thirty years ago this city of 300,000 souls was but a mission-village, and the few inhabitants of California were mostly demoralised Mexicans, lazy half-breeds, and wretched Indians, who could almost live without work, and, as a rule, did so. Wild cattle roamed at will, and meat was to be had for the asking. The only ships which arrived were like the brig *Pilgrim*, described by Dana in "Two Years before the Mast," bound to California for hides and tallow. Now, the tonnage of the shipping of all nations which enters the port of San Francisco is enormous. The discovery made by Marshall, in 1847, *first* brought about the revolution. "Such is the power of gold." *Now*, California depends far

* In his work "Westward by Rail," which contains a most reliable account of California, its history and progress.

more on her corn, and wool, and hides, her wine, her grapes, oranges, and other fruits, and on innumerable industries. Reader, you have eaten bread made from California wheat—it fetches a high price in Liverpool on account of its fine quality; you may have been clothed in California wool, and your boots made of her leather; more than likely you have drunk California wine, of which large quantities are shipped to Hamburgh, where they are watered and doctored for the rest of Europe, and exported under French and German names; your head may have been shampooed with California borax; and your watch-chain was probably, and some of your coin assuredly, made from the gold of the Golden State.

This is not a book on "The Land," but two or three stories of Californian life in the early days may, however, be forgiven. The first is of a man who had just landed from a ship, and who offered a somewhat seedy-looking customer, lounging on the wharf, a dollar to carry his portmanteau. He got the reply, "I'll give you an ounce of gold to see you carry it yourself." The new arrival thought he had come to a splendid country, and shouldered his burden like a man, when the other, a successful gold-finder, not merely gave him his ounce—little less than £4 sterling—but treated him to a bottle of champagne, which cost another ounce. The writer can well believe the story, for he paid two and a half dollars—nearly half a guinea—for an *Illustrated London News*, and two dollars for a copy of *Punch*, in the Cariboo mines, in 1863; while a friend—now retired on a competency in England—started a little weekly newspaper, the size of a sheet of foolscap, selling it for one dollar (4s. 2d.) per copy. He was fortunately not merely a competent writer, but a practical printer. He composed his articles on paper first, and then in type; worked the press, delivered them to his subscribers, collected advertisements and payments, and no doubt would have made his own paper—if rags had not been too costly!

A sailor purchased, about the year 1849, in an auction-room, while out on a "spree," the lots of land on which the Plaza, one of the most important business squares of San Francisco, now stands. He went off again, and after several years cruising about the world, returned to find himself a millionaire. The City Hall stands on that property; it is surrounded by offices, shops, and hotels, and very prettily planted with shrubs, grass-plots, and flowers.

There was a period when females were so scarce in California that the miners and farm-hands, ay, and farmers and proprietors too—a large number of these were old sailors—would travel any distance merely to see one.* At this present time any decent English housemaid receives twenty dollars (£4) per month, and is "found," while a superior servant, a first-class cook, or competent housekeeper, gets anything from thirty dollars upwards.

Theatres at San Francisco were once rude buildings of boards and canvas, and the stalls were benches. A story is told that at a performance at such a house quite a commotion was caused by the piercing squall of a healthy baby—brought in by a mother who, perhaps, had not had any amusement for a year or two, and most assuredly had no servant with whom to leave it at home—which was heard above the music. "Here, you

* At the Cariboo mines, British Columbia, in 1863, there were 7,000 men on the various creeks, There were not over a dozen women there!

fiddlers," roared out a stalwart man in a red shirt and "gum" boots, just down from the mines, "stop that tune; I haven't heard a baby cry for several years; it does me good to hear it." The "one touch of nature" made that rough audience akin, and all rose to their feet, cheering the baby, and insisting that the orchestra must stop, and stop it did until the child was quieted. Then a collection was made—not of coppers and small silver, but of ounces and dollars—to present the child with something handsome as a souvenir of its success.

THE BAY OF SAN FRANCISCO.

San Francisco, as the most important commercial emporium and port of the whole Pacific, has a particular interest to the "man of the sea." It has societies, "homes," and bethels for his benefit, and a fine marine hospital. At the Merchants' Exchange he will find the latest shipping-news and quotations, while many public institutions are open to him, as to all others. Above all, he will find one of the most conscientious and kind, as well as influential, of British Consuls there—and how often the sailor abroad may need his interference, only the sailor and merchant knows — who is also one of the oldest in H.B.M. consular service. No matter his sect, it is represented; San Francisco is full of churches and chapels. If he needs instruction and literary entertainment, he will get it at the splendid Mercantile Library, or admirably-conducted Mechanics' Institute. There is a capital "Art Association," with hundreds of members. He will find journalism of a new type;

"live," vigorous, generous, and semi-occasionally vicious. The papers of San Francisco will, however, compare favourably with those of any other American city, short of New York and Boston. The sailor will find the city as advanced in all matters pertaining to modern civilisation, whether good or bad, as any he has ever visited. The naval officer will find admirable clubs, and if of the Royal Navy will most assuredly be put on the books of one or more of them for the period of his stay. He will find, too, that San Francisco hospitality is unbounded, that balls and parties are nowhere better carried out, and that the rising generation of California girls are extremely good-looking, and that the men are stalwart, fine-looking fellows, very unlike the typical bony Yankee, who, by-the-by, is getting very scarce even in his own part of the country, the New England States.

If Jack has been to China, he will recognise the truth of the fact that parts of San Francisco are Chinese as Hong Kong itself. There are Joss-houses, with a big, stolid-looking idol sitting in state, the temple gay with tinsel and china, metal-work and paint, smelling faintly of incense, and strongly of burnt paper. There are Chinese *restaurants* by the dozen, from the high-class dining-rooms, with balconies, flowers, small banners and inscriptions, down to the itinerant *restaurateur* with his charcoal-stove and soup-pot. Then there are Chinese theatres, smelling strongly of opium and tobacco, where the orchestra sits at the back of the stage, which is curtainless and devoid of scenery. The dresses of the performers are gorgeous in the extreme. When any new arrangement of properties, &c., is required on the stage, the changes are made before your eyes; as, for example, placing a table to represent a raised balcony, or piling up some boxes to form a castle, and so forth. Their dramas are often almost interminable, for they take the reign of an emperor, for example, and play it through, night after night, from his birth to his death. In details they are very literal, and hold "the mirror up to nature" fully. If the said emperor had special vices, they are displayed on the stage. The music is, to European ears, fearful and wonderful—a mixture of discordant sounds, resembling those of ungreased cart-wheels and railway-whistles, mingled with the rolling of drums and striking of gongs. Some of the streets are lined with Chinese shops, ranging from those of the merchants in tea, silks, porcelain, and lacquered ware—a dignified and polite class of men, who are often highly educated, and speak English extremely well—to those of the cigar-makers, barbers, shoemakers, and laundry-*men*. Half the laundry-work in San Francisco is performed by John Chinaman. There is one Chinese hotel, which looks as though it might at a stretch accommodate two hundred people, in which 1,200 men are packed; and there are many others where something nearly as bad exists.

The historian of the future will watch with interest the advancing or receding waves of population as they move over the surface of the globe, now surging in great waves of resistless force, now peacefully subsiding, leaving hardly a trace behind. The Pacific Mail Steamship Company's steamers have brought from China to San Francisco as many as 1,200 Chinamen—and, very occasionally, of course, more than that number—on a single trip. The lowest estimate of the number of Chinese in California is 100,000, while they are spread all over the Pacific states and territories, and, indeed, in lesser numbers, all over the American continent. One finds them in New England factories, New York laundries, and Southern plantations. Their reception in San Francisco used to be with brickbats and

other missiles, and hooting and jeering, on the part of the lower classes of the community. This is not the place to enter into a discussion on the political side of the question. Suffice it to say that they were and still are a necessity in California, where the expense of reaching the country has kept out "white" labour to an extent so considerable, that it still rules higher than in almost any part of the world. The respectable middle classes would hardly afford servants at all were it not for the Chinese. All the better classes support their claims to full legal and social rights. The Chinamen who come to San Francisco are not coolies, and a large number of them pay their own passages over. When brought over by merchants, or one of the six great Chinese companies, their passage-money is advanced, and they, of course, pay interest for the accommodation. On arrival in California, if they do not immediately go to work, they proceed to the "Company-house" of their particular province, where, in a kind of caravanserai, rough accommodations for sleeping and cooking are afforded. Hardly a better system of organisation could be adopted than that of the companies, who know exactly where each man in their debt is to be found, if he is hundreds of miles from San Francisco. Were it possible to adopt the same system in regard to emigrants from this country, thousands would be glad to avail themselves of the opportunity of proceeding to the Golden State.

One little anecdote, and the Chinese must be left to their fate. It happened in 1869. Two Chinese merchants had been invited by one of the heads of a leading steamship company to visit the theatre, where they had taken a box. The merchants, men of high standing among their countrymen, accepted. Their appearance in front of it was the signal for an outburst of ruffianism on the part of the gallery; it was the "gods" *versus* the celestials, and for a time the former had it all their own way. In vain Lawrence Barrett, the actor, came forward on the stage to try and appease them. He is supposed to have said that any well-conducted person had a right to his seat in the house. An excited gentleman in the dress-circle reiterated the same ideas, and was rewarded by a torrent of hisses and caterwauling. The Chinamen, alarmed that it might result in violence to them, would have retired, but a dozen gentlemen from the dress-circle and orchestra seats requested them to stay, promising them protection, and the merchants remained. They could see that all the better and more respectable part of the house wished them to remain. After twenty or more minutes of interruption, the gallery was nearly cleared by the police, and the performance allowed to proceed. And yet the very class who are so opposed to the Chinaman complain that he does not spend his money in the country where he makes it, but hoards it up for China. The story explains the actual position of the Chinaman in America to-day. The upper and middle classes, ay, and the honest mechanics who require their assistance, support their claims; the lowest scum of the population persecute, injure, and not unfrequently murder them. Many a poor John Chinaman has, as they say in America, been "found missing."

The sailor ashore in San Francisco may likely enough have an opportunity of feeling the tremor of an earthquake. As a rule, they have been exceedingly slight, but that of the 21st October, 1868, was a serious affair. Towers and steeples swayed to and fro: tall houses trembled, badly-built wooden houses became disjointed; walls fell. Many buildings, for some time afterwards, showed the effects in cracked walls and plastering, dislocated

doors and window-frames. A writer in the *Overland Monthly*, soon after the event, put the matter forcibly when recalling the great earthquake of Lisbon. He said, "Over the parts of the city where ships anchored twenty years ago, they may anchor again," for the worst effects were confined to the "made" ground—*i.e.*, land reclaimed from the Bay. Dwellings on the rocky hills were scarcely injured at all, reminding us of the relative fates of the man "who built his house upon a rock" and of him who placed it on the sand. Four persons only were killed on that occasion, all of them from the fall of badly-constructed walls, loose parapets, &c. The alarm in the city was great; excited people rushing wildly through the streets, and frightened horses running through the crowds.

California possesses other ports of importance, but as regards English naval interests in the Pacific, Esquimalt, Vancouver Island, B.C., which has a fine land-locked harbour of deep water, dock, and naval hospital, deserves the notice of the reader. It is often the rendezvous for seven or eight of H.M.'s vessels, from the admiral's flag-ship to the tiniest steam gun-boat. Victoria, the capital, is three miles off, and has a pretty little harbour itself, not, however, adapted for large vessels. Formerly the colonies of Vancouver Island and British Columbia, the mainland, were separate and distinct colonies; they are now identified under the latter name. Their value never warranted the full paraphernalia of a double colonial government—two governors, colonial secretaries, treasurers, attorney-generals, &c., &c.; for these countries, charming and interesting to the tourist and artist, will only attract population slowly. The resources of British Columbia in gold, timber, coal, fisheries, &c., are considerable; but the long winters on the mainland, and the small quantity of open land, are great drawbacks. Approaching Vancouver Island from the sea, the "inside channel" is entered through the grand opening to the Straits of Fuca, which Cook missed and Vancouver discovered. To the eastward are the rocks and light of Cape Flattery, while the rather low termination of Vancouver Island, thick with timber, is seen to the westward. The scene in the Straits is often lively with steamers and shipping, great men-of-war, sometimes of foreign nationalities; coast packet-boats proceeding not merely to Vancouver Island, but to the ports of Washington Territory, on the American side; timber (called "lumber" always on that side of the world) vessels; colliers proceeding to Nanaimo or Bellingham Bay to the coal-mines; coasting and trading schooners; and Indian canoes, some of them big enough to accommodate sixty or more persons, and carrying a good amount of sail. The Straits have many beauties; and as, approaching the entrance of Esquimalt Harbour, the Olympian range of mountains, snow-covered and rugged, loom in the distance, the scene is grandly beautiful; while in the channel, rocky islets and islands, covered with pine and arbutus, abound. Outside the Straits two lighthouses are placed, to warn the unwary voyager by night. Often those lighthouses may be noted apparently upside down! Mirage is common enough in the Straits of Fuca.

Victoria, in 1862, had at least 12,000 or 15,000 people, mostly drawn thither by the fame of the Cariboo mines, on the mainland of British Columbia. Not twenty per cent. ever reached those mines. When ships arrived in the autumn, it was utterly useless to attempt the long journey of about 600 miles, partly by steamer, but two-thirds of which must be accomplished on foot or horseback, or often mule-back, over

rugged mountain-paths, through swamps and forests. Consequently, a large number had to spend the winter in idleness; and in the spring, in many cases, their resources were exhausted. Many became tired of the colony; "roughing it" was not always the pleasant kind of thing they had imagined, and so they went down to California, or left for home. Others were stuck fast in the colony, and many suffered severe privations; although, so long as they could manage to live on salmon alone, they could obtain plenty from the Indians, who hawked it about the streets for a shilling or two shillings apiece—the latter for a very large fish. The son of a baronet at one time might be seen breaking stones for a living in Victoria; and unless men had a very distinct calling, profession, or trade, they had to live on their means or have a very rough time of it.

These remarks are not made to deter adventurous spirits from going abroad; but we would advise them to "look well before they leap." But how utterly unfitted for mining-work were the larger part of the young men who had travelled so far, only to be disappointed. There was no doubt of the gold being there: two hundred ounces of the precious metal have been "washed out" in an eight hours' "shift" (a "shift" is the same as a "watch" on board ship); and this was kept up for many days in succession, the miners working day and night. But that mine had been three years in process of development, and only one of the original proprietors was among the lucky number of shareholders. A day or so before the first gold had been found—"struck" is the technical expression—his credit was exhausted, and he had begged vainly for flour, &c., to enable him to live and work. The ordinary price of a very ordinary meal was *two dollars;* and it will be seen that, unless employed, or simply travelling for pleasure, it was a ruinous place to stop in. Fancy, then, the condition of perhaps as many as 3,000 unemployed men, out of a total of 7,000 men, on the various creeks, a good half of whom were of the middle and upper classes at home. But for one happy fact, that beef—which, as the miners said, *packed itself* into the mines (in other words, the cattle were driven in from a distance of hundreds of miles)—was reasonably cheap, hundreds of them must have starved. Everything—from flour, tea, sugar, bacon, and beans, to metal implements and machinery—had to be packed there on the backs of mules, and cost from fifty cents and upwards per pound for the mere cost of transportation. Tea was ten shillings a pound, flour and sugar a dollar a pound, and so on. Those who fancy that gold-mining, and especially deep gravel-mining, as in Cariboo, is play-work, may be told that it is perhaps the hardest, as it is certainly the most risky and uncertain, work in the world; and that it requires machinery, expensive tools, &c., which, in places like Cariboo, cost enormous sums to supply. If labour was to be employed —good practical miners, carpenters, &c. (much of the machinery was of wood)—received, at that period, ten to sixteen dollars per day. This digression may be pardoned, as the sea is so intimately bound up with questions of emigration. Apart from this, from personal observation, the writer knows that quite a proportion of miners have been sailors, and, in many cases, deserted their ships. In the "early days" of Australia, California, and British Columbia, this was eminently the case.

A large proportion of the sailors in the Royal Navy have, or will at some period, pass some time on the Pacific station, in which case, they will inevitably go to Vancouver

Island, where there is much to interest them.* They will find Victoria a very pretty little town, with Government house, cathedral, churches and chapels, a mechanics' institute, a theatre, good hotels and restaurants—the latter generally in French hands. He will find a curious mixture of English and American manners and customs, and a very curious mixture of coinage—shillings being the same as quarter-dollars, while crowns are only the value of dollars (5s., against 4s. 2d.). Some years ago the island system was different from that of the mainland; on the latter, florins were equal to half-dollars (which they are, nearly), while on the island they were 37½ cents only (1s. 7½d.). The Hudson's Bay Company, which has trading-posts throughout British Columbia, took

THE BRITISH CAMP: SAN JUAN.

advantage of the fact to give change for American money, on their steamers, in English florins, obtaining them on the island. They thus made nearly twenty-five per cent. in their transaction, besides getting paid the passenger's fare. Yet the traveller, strange to say, did not lose by this, for, on landing at New Westminster, he found that what was rated at a little over eighteenpence on Vancouver Island, had suddenly, after travelling only seventy miles or so, increased in value to upwards of two shillings!

Outside Victoria there are many pleasant drives and walks: to "The Arm," where, amid a charming landscape, interspersed with pines and natural fir woods, wild flowers, and mossy rocks, there is a pretty little rapid, or fall; to Saanich, where the settlers' homesteads have a semi-civilised appearance, half of the houses being of squared logs, but

* Excepting at San Francisco, the only docks worthy of the name on the *whole* Pacific coasts of America are those of England's naval station at Esquimalt.

comfortable withal inside, and where a rude plenty reigns; or to Beacon Hill, where there is an excellent race-course and drive, which commands fine views up and down the Straits. In sight is San Juan Island, over which England and America once squabbled, while the two garrisons which occupied it fraternised cordially, and outvied with each other in hospitality. The island—rocky, and covered with forest and underbrush, with a farm or two, made by clearing away the big trees, with not a little difficulty, and burning and partially uprooting the stumps—does not look a worthy subject for international differences. But the fact is, that it commands the Straits to some extent. However, all that is over now, and it is England's property by diplomatic arrangement. There are other islands, nearly as large, in the archipelago which stretches northward up the Gulf of Georgia, which have not a single human inhabitant, and have never been visited, except by some stray Indians, miners, or traders who have gone ashore to cook a meal or camp for the night.

Any one who has travelled by small canoes on the sea must remember those happy camping-times, when, often wet, and always hungry and tired, the little party cautiously selected some sheltered nook or specially good beach, and then paddled with a will ashore. No lack of drift-wood or small trees on that coast, and no lord of the manor to interfere with one taking it. A glorious fire is soon raised, and the cooking preparations commenced. Sometimes it is only the stereotyped tea—frying-pan bread (something like the Australian "damper," only baked before the fire), or "slapjacks" (*i.e.*, flour-and-water pancakes), fried bacon, and boiled Chili beans; but ofttimes it can be varied by excellent fish, game, bear-meat, venison, or moose-meat, purchased from some passing Indians, or killed by themselves. It is absurd to suppose that "roughing it" need mean hardship and semi-starvation all the time. Not a bit of it! On the northern coasts now being described, one may often live magnificently, and most travellers learn instinctively to cook, and make the most of things. Nothing is finer in camp than a *roast* fish—say a salmon—split and gutted, and stuck on a stick before the fire, not over it. A few dozen turns, and you have a dish worthy of a prince. Or a composition stew—say of deer and bear-meat and beaver's tail, well seasoned, and with such vegetables as you may obtain there; potatoes from some seaside farm—and there are such on that coast, where the settler is as brown as his Indian wife—or compressed vegetables, often taken on exploring expeditions. Or, again, venison dipped in a thick batter and thrown into a pan of boiling-hot fat, making a kind of meat fritter, with not a drop of its juices wasted. Some of these explorers and miners are veritable *chefs*. They can make good light bread in the woods from plain flour, water, and salt, and ask no oven but a frying-pan. They will make beans, of a kind only given to horses at home, into a delicious dish, by boiling them soft—a long job, generally done at the night camp—and then frying them with bread-crumbs and pieces of bacon in the morning, till they are brown and crisp.

It was at one of these camps, on an island in the Gulf of Georgia, that a camp fire spread to some grass and underbrush, mounted with lightning rapidity a steep slope, and in a few minutes the forest at the top was ablaze. The whole island was soon in flames! For hours afterwards the flames and smoke could be seen. No harm was done; for it is extremely unlikely that island will be inhabited for the next five hundred years. But

forest fires in partially inhabited districts are more serious, or when near trails or roads. In the long summer of Vancouver Island, where rain, as in California, is almost unknown, these fires, once started, may burn for weeks—ay, months.

The Indians of this part of the coast, of dozens of petty tribes, all speaking different languages, or, at all events, varied dialects, are not usually prepossessing in appearance, but the male half-breeds are often fine-looking fellows, and the girls pretty. The sailor will be interested in their cedar canoes, which on Vancouver Island are beautifully modelled. A first-class clipper has not more graceful lines. They are always cut from one log, and are finely and smoothly finished, being usually painted black outside, and finished with red ornamental work within. They are very light and buoyant, and will carry great weights; but one must be careful to avoid rocks on the coast, or "snags" in the rivers, for any sudden concussion will split them all to pieces. When on the Vancouver Island Exploring Expedition, a party of men found themselves suddenly deposited in a swift-running stream, from the canoe having almost parted in half, after touching on a sunken rock or log. All got to shore safely, and it took about half a day of patching and caulking to make her sufficiently river-worthy (why not say "river-worthy" as well as "sea-worthy?") to enable them to reach camp. The writer, in 1864, came down from the extreme end of Bute Inlet—an arm of the sea on the mainland of British Columbia—across the Gulf of Georgia (twenty miles of open sea), coasting southwards to Victoria, V.I., the total voyage being 180 miles, in an open cedar canoe, only large enough for four or five people. The trip occupied five days. But while there is some risk in such an undertaking, there is little in a voyage in the great Haidah canoes of Queen Charlotte's Island (north of Vancouver Island). These canoes are often eighty feet long, but are still always made from a single log, the splendid pines of that coast* affording ample opportunity. They have masts, and carry as much sail as a schooner, while they can be propelled by, say, forty or fifty paddles, half on either side, wielded by as many pairs of brawny arms. The savage Haidahs are a powerful race, of whom not much is known. They, however, often come to Victoria, or the American ports on Puget Sound, for purposes of trading.

"How," it might be asked, "does the trade communicate with so many varieties of natives, all speaking different tongues?" The answer is that there is a jargon, a kind of "pigeon-English," which is acquired, more or less, by almost all residents on the coast for purposes of intercourse with their Indian servants or others. This is the Chinook jargon, a mixture of Indian, English, and French—the latter coming from the French Canadian *voyageurs*, often to be found in the employ of the Hudson's Bay Company, as they were formerly in the defunct North-West Company. Some of the words used have curious origins. Thus, an Englishman is a "King-George-man," because the first explorers, Cook, Vancouver, and others, arrived there during the Georgian era. An American is a "Boston-man," because the first ships from the United States which visited that coast

* Douglas pines have been measured in British Columbia which were *forty-eight* feet in circumference at their base, and therefore about sixteen feet through. These magnificent trees are only second in size to the "Big Trees" of California.

hailed from Boston. This lingo has no grammar, and a very few hundred words satisfies all its requirements. Young ladies, daughters of Hudson's Bay Company's employés in Victoria, rattle it off as though it were their mother-tongue. "Ikte mika tikkee?" ("What do you want?") is probably the first query to an Indian who arrives, and has something to sell. "Nika tikkee tabac et la biscuit" ("I want some tobacco and biscuit"). "Cleush; mika potlatch salmon?" ("Good; will you give me a salmon?"). "Nā-witka, Se-ām" ("Yes, sir"); and for a small piece of black cake-tobacco and two or three biscuits (sailors' "hard bread" or "hard tack") he will exchange a thirty-pound or so salmon.

The Chinook jargon, in skilful hands, is susceptible of much. But it is not adapted for sentiment or poetry, although a naval officer, once stationed on the Pacific side, did evolve an effusion, which the sailor is almost sure to hear there. It needed, however, a fair amount of English to make it read pleasantly. Old residents and visitors will recognise some of its stanzas:—

"Oh! be not quass of nika;
Thy seahoose turn on me;
For thou must but hyas cumtux,
That I hyas tikkee thee!
Nika potlatch hyu ictas;
Nika makook sappalell
Of persicees and la biscuit,
I will give thee all thy fill!"

which, addressed to a "sweet Klootchman," a "forest maiden," means, that loving her so much, all that he had was hers. Much greater absurdities have been put in plain English.

A bishop of British Columbia was, however, hardly so successful; not being himself a student of Chinook, the entire vocabulary of which would have taken him rather less time to learn than the barest elements of Latin, he engaged an interpreter, through whom to address the Indians. The latter was perfectly competent to say all that *can* be said in Chinook, but was rather nonplussed when his lordship commenced his address by "Children of the forest!" He scratched his head and looked at the bishop, who, however, was determined, and commenced once more, "Children of the forest!" The interpreter knew that it must make nonsense, but he was cornered, and had to do it. And this is what he said: "Tenass man copa stick!"—literally, "Little men among the stumps" (or trunks of trees). The writer will not comment upon the subject here, more than to say that Chinook is *not* adapted for the translation of Milton or Shakespeare; while the simplest story or parable of the Scriptures must be unintelligible, or worse, when attempted in that jargon.

The only other settlement on Vancouver Island which has any direct interest to the Royal Navy, is Nanaimo, the coal-mines of which yield a large amount of the fuel used by the steamships when in that neighbourhood and about all that is used on the island; a quantity is also shipped to San Francisco. The mines are worked by English companies, and are so near the coast that, by means of a few tramways and locomotives, the coal is conveyed to the wharves, where it can be at once put on board. It is a pleasant

little place, and many an English miner would be glad to be as well off as the men settled there, who earn more money than at home, own their cottages and plots of land, obtain most of their supplies cheaper than in England, and have a beautiful gulf before them, in summer, at least, as calm as a lake, on which boating and canoeing is all the rage in the evenings or on holidays.

The Pacific Station is an extensive one, for it commences at the most northernmost parts of Bering Sea, and extends below Cape Horn. It embraces the Alaskan coast. Many English men-of-war have visited these latitudes, principally, however, in the cause of science and discovery.

In the old days, when the colony of Russian America was little better than are many parts of Siberia—convict settlements—the few Government officials and officers of the Russian Fur Company were, it may well be believed, only too ready to welcome any change in the monotony of their existence, and a new arrival, in the shape of a ship from some foreign port, was a day to be remembered, and of which to make much. The true Russians are naturally hospitably and sociably inclined, and such times were the occasion for balls, dinners, and parties to any extent. The writer well remembers his first visit to Sitka, which, although the capital of Alaska, is situated on an island off the mainland. On approaching the small and partially land-locked harbour, a mountain of no inconsiderable height, wooded to the top, appeared in view, and below it a little town of highly-coloured roofs, in the middle of which rose a picturesque rock, surmounted by a semi-fortified castle, which, in the distance at least, looked most imposing. Near this, but separated by a stockade, was the village of the Kalosh Indians, a powerful tribe, who had at times, as the members of the expedition learned, given a considerable amount of trouble to the Russians—in 1804 they murdered nearly the whole of the Russian garrison—while beyond on every side were rocky shores and wooded heights. An old hulk or two, lying on the beach below the old castle, itself principally built of wood, the residence of the Governor of Russian America, then Prince Maksutoff, which had been roofed in and were used for magazines of stores, and some rather shaky pile-wharfs, made up the town.

Soon was experienced the warmth of a Russian welcome, and for a week afterwards a succession of gaieties followed, which were so very gay that they would have killed most men, unless they had been fortified with a long sea-trip just before. Every Russian seemed to wish the party to consider all that he had at their service; the *samovar* boiled up everywhere as they approached; the little lunch-table of anchovies, and pickles, rye-bread, butter, cheese, and so forth, with the everlasting *vodka*, was everywhere ready, and except duty called, no one was obliged to go off at night to the three vessels comprising the expedition to which the writer was attached, for the best bed in the house was always at his service. There was only one bar-room in the whole town, and there only a kind of *lager-bier* and *vodka* were to be obtained. When the country was, for a consideration of 7,250,000 dollars, transferred to the United States, there was a "rush" from Victoria and San Francisco. Keen Hebrew traders, knowing that furs up country bore a merely nominal price, and that Sitka was the great *entrepôt* for their collection—a million dollars' worth being frequently gathered there at a time—thought they would be able to buy them for next to nothing still. Parcels of land in the town, which had not at

the utmost a greater value than a few hundred dollars, now ran up to fabulous prices; 10,000 dollars was asked for a log house! Hotels, "saloons"—*i.e.*, bar-rooms *à l'Américaine*—German lager-bier cellars, and barbers' shops sprang up like mushrooms; a newspaper-office was opened, and everything reminded one of the sudden growth of mining-towns in the early days of California. Alas! everything else went up in proportion, excepting salmon, which must be a drug on that coast for many centuries to come;* provisions greatly rose in price, and the competition for furs was so great that they became nearly as dear as in San Francisco. The consequence may be imagined; there was an exodus, and the following January the whole city could have been bought for a song. The Russian officials, of course, left it shortly after the transfer, and most of the others as speedily as they could. The "capital" has never recovered from the shock; for, although organised fur-companies are scattered over the country, in one instance the United States Government leasing the sole right—that of fur-sealing, on the Aleutian Islands—to a firm which has a Russian prince as a partner, Sitka is not the *entrepôt* it was; everything in furs is brought to San Francisco before being consigned to all quarters of the globe. The value of Alaska to the United States is at present very small, but so little is known about it that one can hardly form an estimate concerning its future. It possesses minerals, but these will always be worked with difficulty, on account of the climate. Its grand salmon-fisheries are, however, a tangible property; the cod in Bering Sea is as plentiful as it ever was on the Newfoundland banks; and there are innumerable forests of trees, easily accessible, reaching down to the coast—of pines, firs, and cedars, of size sufficient for the tallest masts and largest spars, so that Alaska has a direct interest for the ship-builder.

By its acquisition, the United States not merely extended its seaboard for, say, 1,500 miles north, but it obtained Mount St. Elias, by far the largest peak of the North American continent, and one of the loftiest mountains of the globe. "Upon Mont Blanc," says an American writer,† "pile the loftiest summit in the British Islands, and they would not reach the altitude of Mount St. Elias. If a man could reach its summit, he would be two miles nearer the stars than any other American could be, east of the Mississippi. . . . . As a single peak it ranks among the half-dozen loftiest on the globe. Some of the Himalaya summits reach, indeed, a couple of miles nearer Orion and the Pleiades, but they rise from an elevated plateau sloping gradually upwards for hundreds of miles. As an isolated peak, St. Elias may look down upon Mont Blanc and Teneriffe, and claim brotherhood with Chimborazo and Cotopaxi." It acquired also one of the four great rivers of the globe, of which the writer had the pleasure of being one of the earliest explorers. The Yukon, which renders the waters of Bering Sea fresh or semi-fresh for a dozen miles beyond its many mouths, is a sister-river to the Amazon, Mississippi, and, perhaps, the Plata; it has affluents to which the Rhine or Rhône are but brooks.

The Kalosh Indians of Sitka live in semi-civilised wooden barns or houses, with

* On many parts of the North-west Pacific coasts of America, from Oregon northwards to Bering Straits, the salmon, in their season, swarm so that a boat can hardly make a way through their "schools."

† *Harper's Magazine* (New York), April, 1869.

invariably a round hole for a door, through which one creeps. They are particularly ingenious in carving; and Jack has many an opportunity of obtaining grotesque figures, cut from wood or slate-stone, for a cast-off garment or a half-dollar. One brought home represents the Russian soldier of the period, prior to the American annexation, and is scarcely a burlesque of his stolid face, gigantic moustache, close fitting coat with very tight sleeves, and loose, baggy trousers. Masks may be seen cut from some white stone, which would not do dishonour to a European sculptor. But now, leaving Sitka, let us make a rapid trip to the extreme northern end of the Pacific Station.

Men-of-war proceeding north of Sitka—which, except for purposes of science or war, is not likely to be the case, although the Pacific Station extends to the northernmost parts of Alaska—would voyage into Bering Sea through Ounimak Pass, one of the best passages between the rocky and rugged Aleutian Islands. In the pass the scenery is superb, grand volcanic peaks rising in all directions. While there, many years ago, the writer well remembers going on deck one morning, when mists and low clouds hung over the then placid waters, and seeing what appeared to be a magnificent mountain peak, snowy and scarped, right overhead the vessel, and having a wreath of white cloud surrounding it, while a lower and greyer bank of mist hid its base. It seemed baseless, and as though rising from nothing; while the bright sunlight above all, and which did not reach the vessel, lit up the eternal snows in brilliant contrasts of light and shadow. This was the grand peak of Sheshaldinski, which rises nearly 9,000 feet above the sea level.

The Aleutian Islands are thinly inhabited, and the Aleuts—a harmless, strong, half-Esquimaux kind of people—often leave them. They make very good sailors. The few Russian settlements, among the principal of which was Kodiak, were simply trading posts and fur-sealing establishments. Since the purchase of Alaska, the United States Government has leased them to a large mercantile firm, which makes profits from the sealing. North of the islands, after steaming over a considerable waste of waters, the only settlements on the coast of the whole country are Michaelovski and Unalachleet, both trading posts; while south of the former are the many mouths of one of the grandest rivers in the world, the Yukon, almost a rival to the Amazon and Mississippi. That section of the country lying round the great river is tolerably rich in fur-bearing animals, including sable, mink, black and silver-grey fox, beaver, and bear. The moose and deer abound; while fish, more especially salmon, is very abundant. Salmon, thirty or more pounds in weight, caught in the Yukon, has often been purchased for a half-ounce of tobacco or four or five common sewing-needles. The coasts of Northern Alaska are rugged and uninviting, and not remarkable for the grand scenery common in the southern division.

Leaving the north, and passing the leading station already described on Vancouver Island, the sailor has the whole Pacific coasts of both Americas, clear to Cape Horn, before him as part of the Pacific Station. There is Mexico, with its port of Acapulco; New Granada, with the important sea-port town of Panama; Callao, Peru; and Valparaiso, in Chili: at any of which H.B.M. vessels are commonly to be found. Panama is, indeed, a very important central point, as officers of the Royal Navy, ordered to join vessels elsewhere, usually leave their own at Panama, cross the isthmus, and take steamer to England, *viâ* St. Thomas's, or by way of New York, thence crossing to Liverpool. The

railroad—which, during its construction, is said to have cost the life of a Chinaman for every sleeper laid down, so fatal was the fever of the isthmus—has the dearest fares of any in the world. The distance from Panama across to Aspinwall (Colon) is about forty miles, and the fare is £5! An immense amount of travel crosses the isthmus; and it is only matter of time for the canal projected by M. Lesseps, which work at latest dates was proceeding very slowly, to be completed. Great steam-ships are arriving daily at Panama from San Francisco, Mexico, and all parts of South America; while, on the Atlantic side, they come from Southampton, Liverpool, New York, and other American ports.

Southward, with favouring breezes and usually calm seas, one soon arrives at Callao—a place which may yet become a great city, but which, like everything else in Peru, has been retarded by interminable dissensions in regard to government and politics, and by the ignorance and bigotry of the masses. Peru had an advantage over Chili in wealth and importance at one time; but, while the latter country is to-day one of the most satisfactory and stable republics in the world, one never knows what is going to happen next in Peru. Hence distrust in commerce; and hence the sailor will not find a tithe of the shipping in Callao Roads that he will at the wharfs of Valparaiso. Lima, the capital, is situated behind Callao, at a distance of about six miles. When seen from the deck of a vessel in the roadstead, the city has a most imposing appearance, with its innumerable domes and spires rising from so elevated a situation, and wearing a strange and rather Moorish air. On nearing the city, everything speaks eloquently of past splendour and present wretchedness; public walks and elegant ornamental stone seats choked with rank weeds, and all in ruins. You enter Lima through a triumphal arch, tawdry and tumbling to pieces; you find that the churches, which looked so imposing in the distance, are principally stucco and tinsel. Lima has a novelty in one of its theatres. It is built in a long oval, the stage occupying nearly the whole of one long side, all the boxes being thus comparatively near it. The pit audience is men, and the galleries, women; and all help to fill the house, between the acts, with tobacco smoke from their cigarettes.

The sailor, who has been much among Spanish people or those of Spanish origin, will find the Chilians the finest race in South America. Valparaiso Harbour is always full of shipping, its wharfs piled with goods; while the railroad and old road to the capital, Santiago, bears evidence of the material prosperity of the country. The country roads are crowded with convoys of pack-mules, while the ships are loading up with wheat, wines, and minerals, the produce of the country. Travelling is free everywhere. Libraries, schools, literary, scientific, and artistic societies abound; the best newspapers published in South America are issued there. Santiago, the city of marble palaces—where even horses are kept in marble stalls—is one of the most delightful places in the world. The lofty Andes tower to the skies in the distance, forming a grand background, and a fruitful, cultivated, and peaceful country surrounds it.

Valparaiso—the "Vale of Paradise"—was probably named by the early Spanish adventurers in this glowing style because any coast whatever is delightful to the mariner who has been long at sea. Otherwise, the title would seem to be of an exaggerated nature. The bay is of a semi-circular form, surrounded by steep hills, rising to the height of near 2,000 feet, sparingly covered with stunted shrubs and thinly-strewed grass. The town is

THE PORT OF VALPARAISO.

built along a narrow strip of land, between the cliffs and the sea; and, as this space is limited in extent, the buildings have straggled up the sides and bottoms of the numerous ravines which intersect the hills. A suburb—the Almendral, or Almond Grove—much larger than the town proper, spreads over a low sandy plain, about half a mile broad, bordering the bay. In the summer months—*i.e.*, November to March—the anchorage is safe and pleasant; but in the wintry months, notably June and July, gales are prevalent from the north, in which direction it is open to the sea.

Captain Basil Hall, R.N., gave some interesting accounts of life in Chili in his published Journal,* and they are substantially true at the present day. He reached Valparaiso at Christmas, which corresponds in climate to our midsummer. Crowds thronged the streets to enjoy the cool air in the moonlight; groups of merry dancers were seen at every turn; singers were bawling out old Spanish romances to the tinkle of the guitar; wild-looking horsemen pranced about in all directions, stopping to talk with their friends, but never dismounting; and harmless bull-fights, in which the bulls were only teased, not killed, served to make the people laugh. The whole town was *en carnival.* "In the course of the first evening of these festivities," says Captain Hall, "while I was rambling about the streets with one of the officers of the ship, our attention was attracted, by the sound of music, to a crowded pulperia, or drinking-house. We accordingly entered, and the people immediately made way and gave us seats at the upper end of the apartment. We had not sat long before we were startled by the loud clatter of horses' feet, and in the next instant, a mounted peasant dashed into the company, followed by another horseman, who, as soon as he reached the centre of the room, adroitly wheeled his horse round, and the two strangers remained side by side, with their horses' heads in opposite directions. Neither the people of the house, nor the guests, nor the musicians, appeared in the least surprised by this visit; the lady who was playing the harp merely stopped for a moment to remove the end of the instrument a few inches further from the horses' feet, and the music and conversation went on as before. The visitors called for a glass of spirits, and having chatted with their friends around them for two minutes, stooped their heads to avoid the cross-piece of the doorway, and putting spurs to their horses' sides, shot into the streets as rapidly as they had entered; the whole being done without discomposing the company in the smallest degree." The same writer speaks of the common people as generally very temperate, while their frankness and hospitality charmed him. Brick-makers, day-labourers, and washerwomen invited him and friends into their homes, and their first anxiety was that the sailors might "feel themselves in their own house;" then some offering of milk, bread, or spirits. However wretched the cottage or poor the fare, the deficiency was never made more apparent by apologies; with untaught politeness, the best they had was placed before them, graced with a hearty welcome. Their houses are of adobes, *i.e.*, sun-dried bricks, thatched in with broad palm-leaves, the ends of which, by overhanging the walls, afford shade from the scorching sun and shelter from the rain. Their mud floors have a portion raised seven or eight inches above the level of the rest, and covered with matting, which forms the couch for the invariable *siesta*. In the cottages Hall saw young women grinding baked corn in

* "Extracts from a Journal written on the Coasts of Chili, Peru, and Mexico, &c."

almost Scriptural mills of two stones each. From the coarse flour obtained, the poor people make a drink called *ulpa*. In the better class of houses he was offered Paraguay tea, or mattee, an infusion of a South American herb. The natives drink it almost boiling hot. It is drawn up into the mouth through a silver pipe: however numerous the company, all use the same tube, and to decline on this account is thought the height of rudeness. The people of Chili, generally, are polite to a degree; and Jack ashore will have no cause to complain, provided he is as polished as are they. He generally contrives, however, to make himself popular, while his little escapades of wildness are looked upon in the light of long pent-up nature bursting forth.

CHAPTER XI.

Round the World on a Man-of-War (*continued*).

FROM THE HORN TO HALIFAX.

The dreaded Horn—The Land of Fire—Basil Hall's Phenomenon—A Missing Volcano—The South American Station—Falkland Islands—A Free Port and Naval Station—Penguins, Peat, and Kelp—Sea Trees—The West India Station—Trinidad—Columbus's First View of it—Fatal Gold—Charles Kingsley's Enthusiasm—The Port of Spain—A Happy-go-lucky People—Negro Life—Letters from a Cottage Ornée—Tropical Vegetation—Animal Life—Jamaica—Kingston Harbour—Sugar Cultivation—The Queen of the Antilles—Its Paseo—Beauty of the Archipelago—A Dutch Settlement in the Heart of a Volcano—Among the Islands—The Souffrière—Historical Reminiscences—Bermuda Colony, Fortress, and Prison—Home of Ariel and Caliban—The Whitest Place in the World—Bermuda Convicts—New York Harbour—The City—First Impressions—Its fine Position—Splendid Harbour—Forest of Masts—The Ferry-boats, Hotels, and Bars—Offenbach's Impressions—Broadway, Fulton Market, and Central Park—New York in Winter—Frozen Ships—The great Brooklyn Bridge—Halifax and its Beauties—Importance of the Station—Bedford Basin—The Early Settlers—The Blue Noses—Adieu to America.

And now the exigencies of the service require us to tear ourselves away from gay and pleasant Valparaiso, and voyage in spirit round the Horn to the South-East American Station, which includes the whole coast, from Terra del Fuego to Brazil and Guiana. Friendly ports, Rio and Montevideo, are open to the Royal Navy as stations for necessary repairs or supplies; but the only strictly British port on the whole station is that at the dreary Falkland Islands, to be shortly described.

Every schoolboy knows that Cape Horn is even more dreaded than the other "Cape of Storms," otherwise known as "The Cape," *par excellence*. In these days, the introduction of steam has reduced much of the danger and horrors of the passage round, though on occasions they are sufficiently serious. In fact, now that there is a regular tug-boat service in the Straits of Magellan, there is really no occasion to go round it at all. In 1862 the writer rounded it, in a steamer of good power, when the water was as still as a mill-pond, and the Horn itself—a barren, black, craggy, precipitous rock, towering above the utter desolation and bleakest solitudes of that forsaken spot—was plainly in sight.

Captain Basil Hall, and his officers and crew, in 1820, when rounding Cape Horn observed a remarkable phenomenon, which may account for the title of the "Land of Fire" bestowed upon it by Magellan. A brilliant light suddenly appeared in the north-western

quarter. "At first of a bright red, it became fainter and fainter, till it disappeared altogether. After the lapse of four or five minutes, its brilliancy was suddenly restored, and it seemed as if a column of burning materials had been projected into the air. This bright appearance lasted from ten to twenty seconds, fading by degrees as the column became lower, till at length only a dull red mass was distinguishable for about a minute, after which it again vanished." The sailors thought it a revolving light, others that it must be a forest on fire. All who examined it carefully through a telescope agreed in considering it a volcano, like Stromboli, emitting alternately jets of flame and red-hot stones. The light was visible

CAPE HORN.

till morning; and although during the night it appeared to be not more than eight or ten miles off, no land was to be seen. The present writer would suggest the probability of its having been an electrical phenomenon.

The naval station at the Falklands is at Port Stanley, on the eastern island, where there is a splendid land-locked harbour, with a narrow entrance. The little port is, and has been, a haven of refuge for many a storm-beaten mariner: not merely from the fury of the elements, but also because supplies of fresh meat can be obtained there, and, indeed, everything else. Wild cattle, of old Spanish stock, roam at will over many parts of the two islands. When the writer was there, in 1862, beef was retailed at fourpence per pound, and Port Stanley being a free port, everything was very cheap. How many boxes of cigars, pounds of tobacco, cases of hollands, and demijohns of rum were, in consequence,

PREPARING FOR TORPEDO EXPERIMENTS AT PORTSMOUTH.

taken on board by his 300 fellow-passengers would be a serious calculation. The little town has not much to recommend it. It has, of course, a Government House and a church, and barracks for the marines stationed there. It is, moreover, the head-quarters of the Falkland Islands Company, a corporation much like the Hudson's Bay Company, trading in furs and hides, and stores for ships and native trade. The three great characteristics of Port Stanley are the penguins, which abound, and are to be seen waddling in troops

THE LANDING OF COLUMBUS AT TRINIDAD.

in its immediate vicinity, and stumbling over the stones if pursued; the kelp, which is so thick and strong in the water at the edge of the bay in places, that a strong boat's crew can hardly get "way" enough on to reach the shore; and the peat-bogs, which would remind an Irishman of his beloved Erin. Peat is the principal fuel of the place; and what glorious fires it makes! At least, so thought a good many of the passengers who took the opportunity of living on shore during the fortnight of the vessel's stay. For about three shillings and sixpence a day one could obtain a good bed, meals of beef-steaks and joints and fresh vegetables—very welcome after the everlasting salt junk and preserved vegetables of the ship—with the addition of hot rum and water, nearly *ad libitum*. Then the privilege of stretching one's legs is something, after five or six weeks' confinement. There is duck and

loon-shooting to be had, or an excursion to the lighthouse, a few miles from the town, where the writer found children, of several years of age, who had never even beheld the glories of Port Stanley, and yet were happy; and near which he saw on the beach *sea-trees* —for "sea-weed" would be a misnomer, the trunks being several feet in circumference— slippery, glutinous, marine vegetation, uprooted from the depths of ocean. Some of them would create a sensation in an aquarium.

The harbour of Port Stanley is usually safe enough, but, in the extraordinary gales which often rage outside, does not always afford safe anchorage. The steamship on which the writer was a passenger lay far out in the bay, but the force of a sudden gale made her drag her anchors, and but for the steam, which was immediately got up, she would have gone ashore. A sailing-vessel must have been wrecked in the same position. Of course, the power of the engines was set against the wind, and she was saved. Passengers ashore could not get off for two days, and those on board could not go ashore. No boat could have lived, even in the bay, during a large part of the time.

The West Indian Station demands our attention next. Unfortunately, it must not take the space it deserves, for it would occupy that required for ten books of the size of this —ay, twenty—to do it the barest justice. Why? Read Charles Kingsley's admirable work, "At Last"—one, alas! of the last tasks of a well-spent life—and one will see England's interest in those islands, and must think also of those earlier days, when Columbus, Drake, and Raleigh sailed among the waters which divide them—days of geographical discovery worth speaking of, of grand triumphs over foes worth fighting, and of gain amounting to something.

On the 31st July, 1499, Columbus, on his third voyage, sighted the three hills which make the south-eastern end of Trinidad. He had determined to name the first land he should sight after the Holy Trinity, and so he did. The triple peaks probably reminded him.

Washington Irving tells us, in his "Life of Columbus," that he was astonished at the verdure and fertility of the country, having expected that it would be parched, dry, and sterile as he approached the equator; whereas, he beheld beautiful groves of palm-trees, and luxuriant forests sweeping down to the sea-side, with gurgling brooks and clear, deep streams beneath the shade. The softness and purity of the climate, and the beauty of the country, seemed, after his long sea voyage, to rival the beautiful province of Valencia itself. Columbus found the people a race of Indians fairer than any he had seen before, "of good stature, and of very graceful bearing." They carried square bucklers, and had bows and arrows, with which they made feeble attempts to drive off the Spaniards who landed at Punta Arenal, near Icacque, and who, finding no streams, sank holes in the sand, and so filled their casks with fresh water—as is done by sailors now-a-days in many parts of the world. "And there," says Kingsley, "that source of endless misery to these harmless creatures, a certain Cacique—so goes the tale—took off Columbus's cap of crimson velvet, and replaced it with a circle of gold which he wore."

Alas for them! that fatal present of gold brought down on them enemies far more ruthless than the Caribs of the northern islands, who had a habit of coming down in their canoes and carrying off the gentle Arrawaks, to eat them at their leisure—after the fashion

which Defoe, always accurate, has immortalised in "Robinson Crusoe." Crusoe's island has been thought by many to be meant for Tobago; Man Friday having been stolen in Trinidad.

No scenery can be more picturesque than that afforded by the entrance to Port of Spain, the chief town in the colony of Trinidad, itself an island lying outside the delta of the great Orinoco River. "On the mainland," wrote Anthony Trollope,* "that is, the land of the main island, the coast is precipitous, but clothed to the very top with the thickest and most magnificent foliage. With an opera-glass, one can distinctly see the trees coming forth from the sides of the rocks, as though no soil were necessary for them, and not even a shelf of stone needed for their support. And these are not shrubs, but forest trees, with grand spreading branches, huge trunks, and brilliant-coloured foliage. The small island on the other side is almost equally wooded, but is less precipitous." There, and on the main island itself, are nooks and open glades where one would not be badly off with straw hats and muslin, pigeon-pies and champagne. One narrow shady valley, into which a creek of the sea ran, made Trollope think that it must have been intended for "the less noisy joys of some Paul of Trinidad with his Creole Virginia." The same writer, after describing the Savannah, which includes a park and race-course, speaks of the Government House, then under repairs. The governor was living in a cottage, hard by. "Were I that great man," said he, "I should be tempted to wish that my great house might always be under repair, for I never saw a more perfect specimen of a pretty spacious cottage, opening, as a cottage should do, on all sides and in every direction. . . . And then the necessary freedom from boredom, etiquette, and governors' grandeur, so hated by governors themselves, which must necessarily be brought about by such a residence! I could almost wish to be a governor myself, if I might be allowed to live in such a cottage." The buildings of Port of Spain are almost invariably surrounded by handsome flowering trees. A later writer tells us that the governors since have stuck to the cottage, and the gardens of the older building have been given to the city as a public pleasure-ground. Kingsley speaks of it as a paradise.

Jack ashore, who, after a long and perhaps stormy voyage, would look upon any land as a haven of delight, will certainly think that he has at last reached the "happy land." It is not merely the climate, the beauty, or the productions of the country; nor the West Indian politeness and hospitality—both proverbial; but the fact that nobody seems to do, or wants to do, anything, and yet lives ten times as well as the poorer classes of England. There are several thousands of human beings in Port of Spain alone, who "toil not, neither do they spin," and have no other visible means of subsistence except eating something or other—mostly fruit—all the live-long day, who are happy, very happy. The truth is, that though they will, and frequently do, eat more than a European, they can almost do without food, and can live, like the Lazzaroni, on warmth and light. "The best substitute for a dinner is a sleep under a south wall in the blazing sun; and there are plenty of south walls in Port of Spain." Has not a poor man, under these circumstances, the same right to be idle as a rich one? Every one there looks strong, healthy, and well-fed. The author

* "The West Indies and the Spanish Main."

of "Westward Ho!" was not likely to be deceived, and says: "One meets few or none of those figures and faces—small, scrofulous, squinny, and haggard—which disgrace the civilisation of a British city. Nowhere in Port of Spain will you see such human beings as in certain streets of London, Liverpool, and Glasgow. Every one plainly can live and thrive if they choose; and very pleasant it is to know that." And wonderfully well does that mixed and happy-go-lucky population assimilate. Trinidad belongs to Great Britain;

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but there are more negroes, half-breeds, Hindoos, and Chinese there than Britons by ten times ten; and the language of the island is mainly French, not English or Spanish. Under cool porticoes and through tall doorways are seen dark shops, built on Spanish models, and filled with everything under the sun. On the doorsteps sit negresses, in flashy Manchester "prints" and stiff turbans, "all aiding in the general work of doing nothing," or offering for sale fruits, sweatmeats, or chunks of sugar-cane. These women, as well as the men, invariably carry everything on their heads, whether it be a half-barrow load of yams, a few ounces of sugar, or a beer-bottle.

One of the regrets of an enthusiastic writer must ever be that he cannot visit all the lovely and interesting spots which he may so easily describe. The present one, enamoured

KINGSTON HARBOUR, JAMAICA.

with San Francisco, which he *has* visited, and Singapore and Sydney, which as yet he hasn't, would, if such writers as Charles Kingsley and Anthony Trollope are to be credited, add Trinidad to the list. Read the former's "Letter from a West Indian Cottage Ornée," or the latter's description of a ride through the cool woods and sea-shore roads, to be convinced that Trinidad is one of the most charming islands in the whole world. Bamboos keep the cottage gravel path up, and as tubes, carry the trickling, cool water to the cottage bath; you hear a rattling as of boards or stiff paper outside your window: it is the clashing together of a fan-palm, with leaf-stalks ten feet long and fans more feet wide. The orange, the pine-apple, and the "flower fence" (*Poinziana*); the cocoa-palm, the tall Guinea grass, and the "groo-groos" (a kind of palm: *Acrocomia sclerocarpa*); the silk-cotton tree, the tamarind, and the Rosa del monte bushes—twenty feet high, and covered with crimson roses; tea shrubs, myrtles, and clove-trees intermingle with vegetation common elsewhere. Thus much for a mere chance view.

The seaman ashore will note many of these beauties; but his superior officers will see more. The *cottage ornée*, to which they will be invited, with its lawn and flowering shrubs, tiny specimens of which we admire in hot-houses at home; the grass as green as that of England, and winding away in the cool shade of strange evergreens; the yellow cocoa-nut palms on the nearest spur of hill throwing back the tender blue of the distant mountains; groups of palms, with perhaps *Erythrinas umbrosa* (*Bois immortelles*, they call them in Trinidad), with vermilion flowers—trees of red coral, sixty feet high—interspersed; a glimpse beyond of the bright and sleeping sea, and the islands of the Bocas "floating in the shining waters," and behind a luxuriously furnished cottage, where hospitality is not a mere name, but a very sound fact; what on earth can man want more?

Kingsley, in presence of the rich and luscious beauty, the vastness and repose, to be found in Trinidad, sees an understandable excuse for the tendency to somewhat grandiose language which tempts perpetually those who try to describe the tropics, and know well that they can only fail. He says: "In presence of such forms and such colouring as this, one becomes painfully sensible of the poverty of words, and the futility, therefore, of all word-painting; of the inability, too, of the senses to discern and define objects of such vast variety; of our æsthetic barbarism, in fact, which has no choice of epithets, save such as 'great,' and 'vast,' and 'gigantic;' between such as 'beautiful,' and 'lovely,' and 'exquisite,' and so forth: which are, after all, intellectually only one stage higher than the half-brute 'Wah! wah!' with which the savage grunts his astonishment—call it not admiration; epithets which are not, perhaps, intellectually as high as the 'God is great!' of the Mussulman, who is wise enough not to attempt any analysis, either of Nature or of his feelings about her, and wise enough, also . . . in presence of the unknown, to take refuge in God."

Monkeys of many kinds, jaguars, toucans, wild cats; wonderful ant-eaters, racoons, and lizards; and strange birds, butterflies, wasps, and spiders abound, but none of those animals which resent the presence of man. Happy land!

But the gun has fired. H.M.S. *Sea* is getting all steam up. The privilege of leave cannot last for ever: it is "All aboard!" Whither bound? In the archipelago of the West Indies there are so many points of interest, and so many ports which the sailor of

the Royal Navy is sure to visit. There are important docks at Antigua, Jamaica, and Bermuda; while the whole station—known professionally as the "North American and West Indian"—reaches from the north of South America to beyond Newfoundland, Kingston, and Jamaica, where England maintains a flag-ship and a commodore, a dockyard, and a naval hospital.

Kingston Harbour is a grand lagoon, nearly shut in by a long sand-spit, or rather bank, called "The Palisades," at the point of which is Port Royal, which, about ninety years ago, was nearly destroyed by an earthquake. Mr. Trollope says that it is on record that hardy "subs" and hardier "mids" have ridden along the Palisades, and have not died from sunstroke in the effort. But the chances were much against them. The ordinary ingress and egress, as to all parts of the island's coasts, is by water. Our naval establishment is at Port Royal.

Jamaica has picked up a good deal in these later days, but is not the thriving country it was before the abolition of slavery. Kingston is described as a formal city, with streets at right angles, and with generally ugly buildings. The fact is, that hardly any Europeans or even well-to-do Creoles live in the town, and, in consequence, there are long streets, which might almost belong to a city of the dead, where hardly a soul is to be seen: at all events, in the evenings. All the wealthier people—and there are a large number—have country seats—"pens," as they call them, though often so charmingly situated, and so beautifully surrounded, that the term does not seem very appropriate. The sailor's pocket-money will go a long way in Kingston, if he confines himself to native productions; but woe unto him if he will insist on imported articles! All through the island the white people are very English in their longings, and affect to despise the native luxuries. Thus, they will give you ox-tail soup when real turtle would be infinitely cheaper. "When yams, avocado pears, the mountain cabbage, plantains, and twenty other delicious vegetables may be had for the gathering, people will insist on eating bad English potatoes; and the desire for English pickles is quite a passion." All the servants are negroes or mulattoes, who are greatly averse to ridicule or patronage; while, if one orders them as is usual in England, they leave you to wait on yourself. Mr. Trollope discovered this. He ordered a lad in one of the hotels to fill his bath, calling him "old fellow." "Who you call fellor?" asked the youth; "you speak to a gen'lman gen'lmanly, and den he fill de bath."

The sugar-cane—and by consequence, sugar and rum—coffee, and of late tobacco, are the staple productions of Jamaica. There is one district where the traveller may see an unbroken plain of 4,000 acres under canes. The road over Mount Diabolo is very fine, and the view back to Kingston very grand. Jack ashore will find that the people all ride, but that the horses always walk. There are respectable mountains to be ascended in Jamaica: Blue Mountain Peak towers to the height of 8,000 feet. The highest inhabited house on the island, the property of a coffee-planter, is a kind of half-way house of entertainment; and although Mr. Trollope—who provided himself with a white companion, who, in his turn, provided five negroes, beef, bread, water, brandy, and what seemed to him about ten gallons of rum—gives a doleful description of the clouds and mists and fogs which surrounded the Peak, others may be more fortunate.

The most important of the West Indian Islands, Cuba—"Queen of the Antilles"—

does not, as we all know, belong to England, but is the most splendid appanage of the Spanish crown. Havana, the capital, has a grand harbour, large, commodious, and safe, with a fine quay, at which the vessels of all nations lie. The sailor will note one peculiarity: instead of laying alongside, the ships are fastened "end on"—usually the bow being at the quay. The harbour is very picturesque, and the entrance to it is defended by two forts, which were taken once by England—in Albemarle's time—and now could be

HAVANA.

knocked to pieces in a few minutes by any nation which was ready with the requisite amount of gunpowder.

Havana is a very gay city, and has some special attractions for the sailor—among others being its good cigars and cheap Spanish wine and fruits. Its greatest glory is the Paseo—its Hyde Park, Bois de Boulogne, Corso, Cascine, Alamèda—where the Cuban belles and beaux delight to promenade and ride. There will you see them, in bright-coloured, picturesque attire—sadly Europeanised and Americanised of late, though—seated in the volante, a kind of hanging cabriolet, between two large wheels, drawn by one or two horses, on one of which the negro servant, with enormous leggings, white breeches, red jacket, and gold lace, and broad-brimmed straw hat, rides. The volante is itself bright with

polished metal, and the whole turn-out has an air of barbaric splendour. These carriages are never kept in a coach-house, but are usually placed in the halls, and often even in the dining-room, as a child's perambulator might with us. Havana has an ugly cathedral and a magnificent opera-house.

Slave labour is common, and many of the sugar and tobacco planters are very wealthy. Properties of many hundred acres under cultivation are common. Mr. Trollope found the negroes well-fed, sleek, and fat as brewers' horses, while no sign of ill-usage came before him. In crop times they sometimes work sixteen hours a day, and Sunday is not then a day of rest for them. There are many Chinese coolies, also, on the island.

Kingsley, speaking of the islands in general, says that he "was altogether unprepared for their beauty and grandeur." Day after day, the steamer took him past a shifting diorama of scenery, which he likened to Vesuvius and Naples, repeated again and again, with every possible variation of the same type of delicate loveliness. Under a cloudless sky, and over the blue waters, banks of light cloud turned to violet and then to green, and then disclosed grand mountains, with the surf beating white around the base of tall cliffs and isolated rocks, and the pretty country houses of settlers embowered in foliage, and gay little villages, and busy towns. "It was easy," says that charming writer, "in presence of such scenery, to conceive the exultation which possessed the souls of the first discoverers of the West Indies. What wonder if they seemed to themselves to have burst into fairy-land—to be at the gates of the earthly Paradise? With such a climate, such a soil, such vegetation, such fruits, what luxury must not have seemed possible to the dwellers along those shores? What riches, too, of gold and jewels, might not be hidden among those forest-shrouded glens and peaks? And beyond, and beyond again, ever new islands, new continents, perhaps, and inexhaustible wealth of yet undiscovered worlds."*

The resemblance to Mediterranean, or, more especially, Neapolitan, scenery is very marked. "Like causes have produced like effects; and each island is little but the peak of a volcano, down whose shoulders lava and ash have slidden toward the sea." Many carry several cones. One of them, a little island named Saba, has a most remarkable settlement *half-way up a volcano*. Saba rises sheer out of the sea 1,500 or more feet, and, from a little landing-place, a stair runs up 800 feet into the very bosom of the mountain, where in a hollow live some 1,200 honest Dutchmen and 800 negroes. The latter were, till of late years, nominally the slaves of the former; but it is said that, in reality, it was just the other way. The blacks went off when and whither they pleased, earned money on other islands, and expected their masters to keep them when they were out of work. The good Dutch live peaceably aloft in their volcano, grow garden crops, and sell them to vessels or to surrounding islands. They build the best boats in the West Indies up in their crater, and lower them down the cliff to the sea! They are excellent sailors and good Christians. Long may their volcano remain quiescent!

When the steamer stops at some little port, or even single settlement, the negro boats come alongside with luscious fruit and vegetables—bananas and green oranges; the sweet sop, a fruit which looks like a strawberry, and is as big as an orange; the custard-

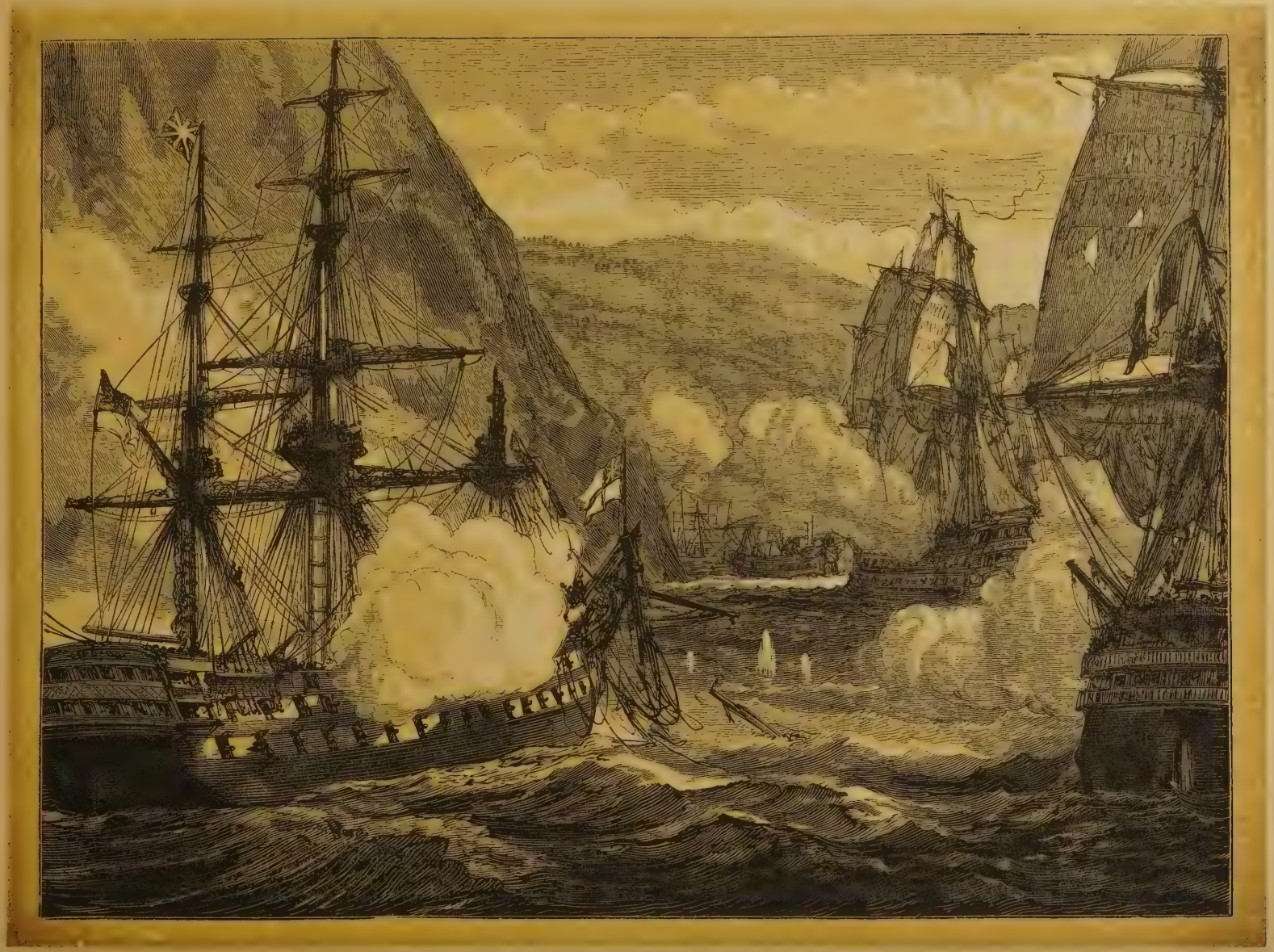
* "At Last: A Christmas in the West Indies."

apples—the pulp of which, those who have read "Tom Cringle's Log" will remember, is fancied to have an unpleasant resemblance to brains; the avocado, or alligator-pears, otherwise called "midshipman's butter," which are eaten with pepper and salt; scarlet capsicums, green and orange cocoa-nuts, roots of yam, and cush-cush, help to make up baskets as varied in colour as the gaudy gowns and turbans of the women. Neither must the junks of sugar-cane be omitted, which the "coloured" gentlemen and ladies delight to gnaw, walking, sitting, and standing; increasing thereby the size of their lips, and breaking out, often enough, their upper front teeth. Rude health is in their faces; their cheeks literally shine with fatness.

But in this happy archipelago there are drawbacks: in the Guadaloupe earthquake of 1843, 5,000 persons lost their lives in the one town of Point-à-Pitre alone. The Souffrière volcano, 5,000 feet high, rears many a peak to the skies, and shows an ugly and uncertain humour, smoking and flaming. The writer so often quoted gives a wonderfully beautiful description of this mountain and its surroundings. "As the sun rose, level lights of golden green streamed round the peak, right and left, over the downs; but only for a while. As the sky-clouds vanished in his blazing rays, earth-clouds rolled up from the valleys behind, wreathed and weltered about the great black teeth of the crater, and then sinking among them and below them, shrouded the whole cone in purple darkness for the day; while in the foreground blazed in the sunshine broad slopes of cane-field; below them again the town (the port of Basse Terre), with handsome houses, and old-fashioned churches and convents, dating possibly from the seventeenth century, embowered in mangoes, tamarinds, and palmistes; and along the beach, a market beneath a row of trees, with canoes drawn up to be unladen, and gay dresses of every hue. The surf whispered softly on the beach. The cheerful murmur of voices came off the shore, and above it, the tinkling of some little bell, calling good folks to early mass. A cheery, brilliant picture as man could wish to see, but marred by two ugly elements. A mile away on the low northern cliff, marked with many a cross, was the lonely cholera cemetery, a remembrance of the fearful pestilence which, a few years since, swept away thousands of the people: and above frowned that black giant, now asleep: but for how long?"

The richness of the verdure which clothes these islands to their highest peaks seems a mere coat of green fur, and yet is often gigantic forest trees. The eye wanders over the green abysses, and strains over the wealth of depths and heights, compared with which fine English parks are mere shrubberies. There is every conceivable green, or rather of hues, ranging from pale yellow through all greens into cobalt; and "as the wind stirs the leaves, and sweeps the lights and shadows over hill and glen, all is ever-changing, iridescent, like a peacock's tail; till the whole island, from peak to shore, seems some glorious jewel—an emerald, with tints of sapphire and topaz, hanging between blue sea and white surf below, and blue sky and white cloud above." And yet, over all this beauty, dark shadows hang—the shadow of war and the shadow of slavery. These seas have been oft reddened with the blood of gallant sailors, and every other gully holds the skeleton of an Englishman.

Here it was that Rodney broke De Grasse's line, took and destroyed seven French ships of war, and scattered the rest: saving Jamaica, and, in sooth, the whole West



THE *CENTAUR* AT THE DIAMOND ROCK, MARTINIQUE

Indies, and bringing about the honourable peace of 1783. Yon lovely roadstead of Dominica: there Rodney caught up with the French just before, and would have beaten them so much the earlier but for his vessels being becalmed. In that deep bay at Martinique, now lined with gay houses, was for many years the Cul-de-sac Royal, the rendezvous and stronghold of the French fleet. That isolated rock hard by, much the shape and double the size of the great Pyramids, is Sir Samuel Hood's famous Diamond Rock,* to which that brave old navigator literally tied with a hawser or two his ship, the *Centaur*, and turned the rock into a fortress from whence to sweep the seas. The rock was for several months rated on the books of the Admiralty as "His Majesty's Ship, *Diamond Rock*." She had at last to surrender, for want of powder, to an overwhelming force—two seventy-fours and fourteen smaller ships of war—but did not give in till seventy poor Frenchmen were lying killed or wounded, and three of their gun-boats destroyed, her own loss being only two men killed and one wounded. Brave old sloop of war! And, once more, those glens and forests of St. Lucia remind us of Sir John Moore and Sir Ralph Abercrombie, who fought, not merely the French, but the "Brigands"—negroes liberated by the Revolution of 1792.

But the good ship must proceed; and as British naval interests are under consideration, let her bows be turned to Bermuda—a colony, a fortress and a prison, and where England owns an extensive floating dock, dock-yards, and workshops.† Trollope says that its geological formation is mysterious. "It seems to be made of soft white stone, composed mostly of little shells—so soft, indeed, that you might cut Bermuda up with a hand-saw. And people are cutting up Bermuda with hand-saws. One little island, that on which the convicts are established, has been altogether so cut up already. When I visited it, two fat convicts were working away slowly at the last fragment." Bermuda is the crater of an extinct volcano, and is surrounded by little islets, of which there is one for every day of the year in a space of twenty by three miles. These are surrounded again by reefs and rocks, and navigation is risky.

Were the Bermudas the scene of Ariel's tricks? They were first discovered, in 1522, by Bermudez, a Spaniard; and Shakespeare seems to have heard of them, for he speaks of the

"Still vexed Bermoothes."

Trollope says that there is more of the breed of Caliban in the islands than of Ariel. Though Caliban did not relish working for his master more than the Bermudian of to-day, there was an amount of energy about him entirely wanting in the existing islanders.

There are two towns, St. George and Hamilton, on different islands. The former is the head-quarters of the military, and the second that of the governor. It is the summer head-quarters of the admiral of the station. The islands are, in general, wonderfully fertile, and will, with any ordinary cultivation, give two crops of many

* "Naval Chronicles," vol. xii.

† Other islands of the West Indies, as St. Thomas's, which is a kind of leading "junction" for mail steamers, and St. Domingo—so intimately connected with the voyages of Columbus—will be mentioned hereafter.

vegetables in the year. It has the advantages of the tropics, *plus* those of more temperate climes. For tomatoes, onions, beet-root, sweet potatoes, early potatoes, as well as all kinds of fruits, from oranges, lemons, and bananas to small berries, it is not surpassed by any place in the world; while arrowroot is one of its specialities. It is the early market-garden for New York. Ship-building is carried on, as the islands abound in a stunted cedar,

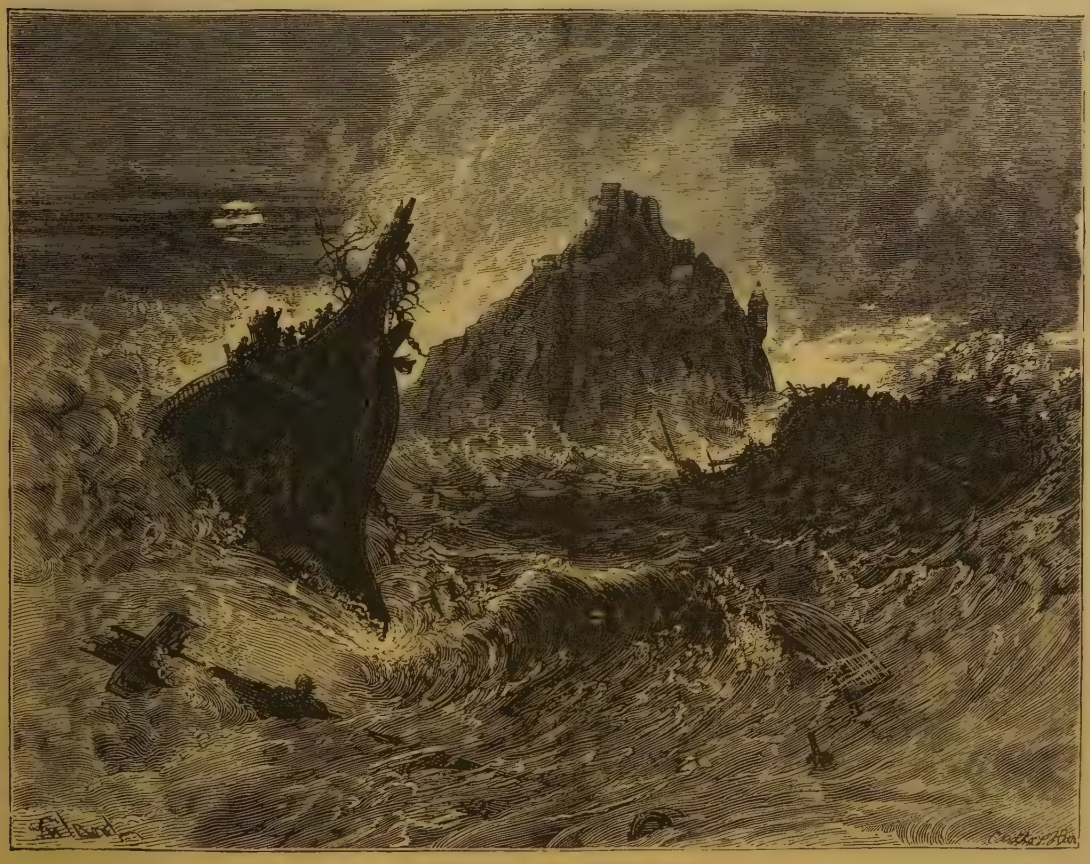
BERMUDA, FROM GIBBS HILL.

good for the purpose, when it can be found large enough. The working population are almost all negroes, and are lazy to a degree. But the whites are not much better; and the climate is found to produce great lassitude.

It is the sea round the Bermudas, more than the islands themselves, perhaps, that give its beauty. Everywhere the water is wonderfully clear and transparent, while the land is broken up into narrow inlets and headlands, and bays and promontories, nooks and corners, running here and there in capricious and ever-varying forms. The oleanders, with their bright blossoms, are so abundant, almost to the water's edge, that the Bermudas might be called the "Oleander Isles."

The Bermuda convict, in Trollope's time, seemed to be rather better off than most

English labourers. He had a pound of meat—good meat, too—while the Bermudians were tugging at their teeth with tough morsels; he had a pound and three-quarters of bread—more than he wanted; a pound of vegetables; tea and sugar; a glass of grog per diem; tobacco-money allowed, and eight hours' labour. He was infinitely better off than most sailors of the merchant service.



THE NORTH ROCK, BERMUDA.

St. George, the military station of the colony, commands the only entrance among the islands suitable for the passage of large vessels, the narrow and intricate channel which leads to its land-locked haven being defended by strong batteries. The lagoons, and passages, and sea canals between the little islands make communication by water as necessary as in Venice. Every one keeps a boat or cedar canoe. He will often do his business on one island and have his residence on a second. Mark Twain has a wonderful facility for description; and his latest articles, "Random Notes of an Idle Excursion," contain a picturesque account of the Bermudas, and more particularly of Hamilton, the leading port. He says that he found it a wonderfully white town, white as marble—snow—flour. "It was," says he, "a town compacted together upon the sides

and tops of a cluster of small hills. Its outlying borders fringed off and thinned away among the cedar forests, and there was no woody distance of curving coast or leafy islet sleeping on the dimpled, painted sea but was flecked with shining white points—half-concealed houses peeping out of the foliage. * * * There was an ample pier of heavy masonry; upon this, under shelter, were some thousands of barrels, containing that product which has carried the fame of Bermuda to many lands—the potato. With here and there an onion. That last sentence is facetious, for they grow at least two onions in Bermuda to one potato. The onion is the pride and the joy of Bermuda. It is her jewel, her gem of gems. In her conversation, her pulpit, her literature, it is her most frequent and eloquent figure. In Bermudian metaphor it stands for perfection—perfection absolute.

"The Bermudian, weeping over the departed, exhausts praise when he says, 'He was an onion!' The Bermudian, extolling the living hero, bankrupts applause when he says, 'He is an onion!' The Bermudian, setting his son upon the stage of life to dare and do for himself, climaxes all counsel, supplication, admonition, comprehends all ambition, when he says, 'Be an onion!'" When the steamer arrives at the pier, the first question asked is not concerning great war or political news, but concerns only the price of onions. All the writers agree that for tomatoes, onions, and vegetables generally, the Bermudas are unequalled; they have been called, as noted before, the market-gardens of New York.

Jack who is fortunate enough to be on the West India and North American Stations must be congratulated. "The country roads," says the clever writer above quoted, "curve and wind hither and thither in the delightfulest way, unfolding pretty surprises at every turn; billowy masses of oleander that seem to float out from behind distant projections, like the pink cloud-banks of sunset; sudden plunges among cottages and gardens, life and activity, followed by as sudden plunges into the sombre twilight and stillness of the woods; glittering visions of white fortresses and beacon towers pictured against the sky on remote hill-tops; glimpses of shining green sea caught for a moment through opening headlands, then lost again; more woods and solitude; and by-and-by another turn lays bare, without warning, the full sweep of the inland ocean, enriched with its bars of soft colour, and graced with its wandering sails.

"Take any road you please, you may depend upon it you will not stay in it half a mile. Your road is everything that a road ought to be; it is bordered with trees, and with strange plants and flowers; it is shady and pleasant, or sunny and still pleasant; it carries you by the prettiest and peacefulest and most home-like of homes, and through stretches of forest that lie in a deep hush sometimes, and sometimes are alive with the music of birds; it curves always, which is a continual promise, whereas straight roads reveal everything at a glance and kill interest. * * * There is enough of variety. Sometimes you are in the level open, with marshes, thick grown with flag-lances that are ten feet high, on the one hand, and potato and onion orchards on the other; next you are on a hill-top, with the ocean and the islands spread around you; presently the road winds through a deep cut, shut in by perpendicular walls thirty or forty feet high, marked with the oddest and abruptest stratum lines, suggestive of sudden and eccentric old upheavals, and garnished with, here and there, a clinging adventurous flower, and here and there

a dangling vine; and by-and-by, your way is along the sea edge, and you may look down a fathom or two through the transparent water and watch the diamond-like flash and play of the light upon the rocks and sands on the bottom until you are tired of it—if you are so constituted as to be able to get tired of it."

But as there are spots in the sun, and the brightest lights throw the deepest shadows everywhere; so on the Bermuda coasts there are, in its rare storms, dangers of no small kind among its numerous reefs and rocks. The North Rock, in particular, is the monument which marks the grave of many a poor sailor in by-gone days. At the present time, however, tug-boats, and the use of steam generally, have reduced the perils of navigation among the hundreds of islands which constitute the Bermuda group to a minimum.

The recent successful trip of Cleopatra's Needle in a vessel of unique construction will recall that of the Bermuda floating-dock, which it will be remembered was towed across the Atlantic and placed in its present position.

Bermuda being, from a naval point of view, the most important port on the North American and West Indian Stations, it had long been felt to be an absolute necessity that a dock capable of holding the largest vessels of war should be built in some part of the island. After many futile attempts to accomplish this object, owing to the porous nature of the rock of which the island is formed, it was determined that Messrs. Campbell, Johnstone & Co., of North Woolwich, should construct a floating-dock according to their patented inventions: those built by them for Carthagena, Saigon, and Callao having been completely successful. The dimensions of the dock for Bermuda, which was afterwards named after that island, are as follows:—

Length over all - - -	381 feet.
Length between caissons - -	330 „
Breadth over all - - -	124 „
Breadth between sides - -	84 „
Depth inside - - - -	53 „ 5 in.

She is divided into eight longitudinal water-tight compartments, and these again into sets of compartments, called respectively load on and balance chambers. Several small compartments were also made for the reception of the pumps, the machinery for moving capstans, and cranes, all of which were worked by steam. She is powerful and large enough to lift an ironclad having a displacement of 10,400 tons, and could almost dock the *Great Eastern*.

The building of the *Bermuda* was begun in August, 1866; she was launched in September, 1868, and finally completed in May, 1869. For the purposes of navigation two light wooden bridges were thrown across her, on the foremost of which stood her compass, and on the after the steering apparatus. She was also supplied with three lighthouses and several semaphores for signalling to the men-of-war which had her in tow, either by night or day. In shape she is something like a round-bottomed canal boat with the ends cut off. From an interesting account of her voyage from Sheerness to Bermuda by "One of those on Board," we gather the following information respecting her trip. Her crew numbered eighty-two hands, under a Staff-Commander, R.N.; there were also on board an assistant naval surgeon, an Admiralty commissioner, and the writer

of the book from which these particulars are taken. The first rendezvous of the *Bermuda* was to be at the Nore.

On the afternoon of the 23rd of June, 1869, the *Bermuda* was towed to the Nore by four ordinary Thames tugs, accompanied by H.M.SS. *Terrible, Medusa, Buzzard,* and *Wildfire.* On arriving at the Nore off the lightship she found the *Northumberland* waiting for her. The tugs cast off, and a hawser was passed to the *Northumberland,*

THE BERMUDA FLOATING DOCK.

which took her in tow as far as Knob Channel, the *Terrible* bringing up astern. The *Agincourt* was now picked up, and passing a hawser on board the *Northumberland,* took the lead in the maritime tandem. A hawser was now passed to the *Terrible* from the stern of the *Bermuda,* so that by towing that vessel she might be kept from swaying from side to side. The *Medusa* steamed on the quarter of the *Northumberland,* and the *Buzzard* acted as a kind of floating outrider to clear the way. The North Foreland was passed the same evening, at a speed of four knots an hour. Everything went well until the 25th, when she lost sight of land off the Start Point late in the afternoon of that day. On the 28th she was half-way across the Bay of Biscay, when, encountering a slight sea and a freshening wind, she showed her first tendency to roll, an accomplishment in which she was

afterwards beaten by all her companions, although the prognostications about her talents in this direction had been of the most lugubrious description. It must be understood that the bottom of her hold, so to speak, was only some ten feet under the surface of the water, and that her hollow sides towered some sixty feet above it. On the top of each gunwale were wooden houses for the officers, with gardens in front and behind, in which mignonette, sweet peas, and other English garden flowers, grew and flourished, until they encountered the parching heat of the tropics. The crew was quartered in the sides of the vessel; and the top of the gunwales, or quarter-decks, as they might be called, communicated with the lower decks by means of a ladder fifty-three feet long.

VOYAGE OF THE "BERMUDA."

To return, however, to the voyage. Her next rendezvous was at Porto Santo, a small island on the east coast of the island of Madeira. On July 4th, about six o'clock in the morning, land was signalled. This proved to be the island of Porto Santo; and she brought up about two miles off the principal town early in the afternoon, having made the voyage from Sheerness in exactly eleven days. Here the squadron was joined by the *Warrior*, *Black Prince*, and *Lapwing* (gunboat), the *Helicon* leaving them for Lisbon. Towards nightfall they started once more in the following order, passing to the south of Bermuda. The *Black Prince* and *Warrior* led the team, towing the *Bermuda*, the *Terrible* being towed by her in turn, to prevent yawing, and the *Lapwing* following close on the heels of the *Terrible*. All went well until the 8th, when the breeze freshened, the dock rolling as much as ten degrees. Towards eight o'clock in the evening a mighty crash was heard, and the whole squadron was brought up by signal from the lighthouses. On examination it was found that the *Bermuda* had carried away one of the chains of

her immense rudder, which was swaying to and fro in a most dangerous manner. The officers and men, however, went to work with a will, and by one o'clock the next morning all was made snug again, and the squadron proceeded on its voyage. During this portion of the trip, a line of communication was established between the *Bermuda* and the *Warrior*, and almost daily presents of fresh meat and vegetables were sent by the officers of the ironclad to their unknown comrades on board the dock. On the 9th, the day following the disaster to the rudder, they fell in with the north-east trade winds, which formed the subject of great rejoicing. Signals were made to make all sail, and reduce the quantity of coal burned in the boilers of the four steam vessels. The next day, the *Lapwing*, being shorter of coal than the others, she was ordered to take the place of the *Terrible*, the latter ship now taking the lead by towing the *Black Prince*. The *Lapwing*, however, proved not to be sufficiently powerful for this service. A heavy sea springing up, the dock began to yaw and behave so friskily that the squadron once more brought to, and the old order of things was resumed.

On the 25th the *Lapwing* was sent on ahead to Bermuda to inform the authorities of the close advent of the dock. It was now arranged that as the *Terrible* drew less water than any of the other ships, she should have the honour of piloting the dock through the Narrows—a narrow, tortuous, and shallow channel, forming the only practicable entrance for large ships to the harbour of Bermuda. On the morning of the 28th, Bermuda light-house was sighted, and the *Spitfire* was shortly afterwards picked up, having been sent by the Bermudan authorities to pilot the squadron as far as the entrance of the Narrows. She also brought the intelligence that it had been arranged that the *Viper* and the *Vixen* had been ordered to pilot the dock into harbour. As they neared Bermuda, the squadron were met by the naval officer in charge of the station, who, after having had interviews with the captains of the squadron and of the *Bermuda*, rescinded the order respecting the *Vixen* and the *Viper*, and the *Terrible* was once more deputed to tow the *Bermuda* through the Narrows. Just off the mouth of this dangerous inlet, the *Bermuda* being in tow of the *Terrible* only, the dock became uncontrollable, and would have done her best to carry Her Majesty's ship to Halifax had not the *Warrior* come to her aid, after the *Spitfire* and *Lapwing* had tried ineffectually to be of assistance.

By this time, however, the water in the Narrows had become too low for the *Warrior;* the *Bermuda* had, therefore, to wait until high water next morning in order to complete the last, and, as it proved, the most perilous part of her journey. After the *Warrior* and the *Terrible* had towed the dock through the entrance of the inlet, the first-named ship cast off. The dock once more became unmanageable through a sudden gust of wind striking her on the quarter. Had the gust lasted for only a few seconds longer, the dock would have stranded—perhaps for ever. She righted, however, and the *Terrible* steaming hard ahead, she passed the most dangerous point of the inlet, and at last rode securely in smooth water, within a few cables' length of her future berth, after a singularly successful voyage of thirty-six days.

It says much for the naval and engineering skill of all concerned in the transport of this unwieldy mass of iron, weighing 8,000 tons, over nearly 4,000 miles of ocean, without the loss of a single life, or, indeed, a solitary accident that can be called serious. The

conception, execution, and success of the project are wholly unparalleled in the history of naval engineering.

Leaving Bermuda, whither away? To the real capital of America, New York. It is true that English men-of-war, and, for the matter of that, vessels of the American navy, comparatively seldom visit that port, which otherwise is crowded by the shipping of all nations. There are reasons for this. New York has not to-day a dock worthy of the name; magnificent steamships and palatial ferry-boats all lie alongside wharfs, or enter "slips," which are semi-enclosed wharfs. Brooklyn and Jersey City have, however, docks.

Who that has visited New York will ever forget his first impressions? The grand Hudson, or the great East River, itself a strait: the glorious bay, or the crowded island, alike call for and deserve enthusiastic admiration. If one arrives on a sunny day, maybe not a zephyr agitates the surface of the noble Hudson, or even the bay itself: the latter landlocked, save where lost in the broad Atlantic; the former skirted by the great Babylon of America and the wooded banks of Hoboken. Round the lofty western hills, a fleet of small craft—with rakish hulls and snowy sails—steal quietly and softly, while steamboats, that look like floating islands, almost pass them with lightning speed. Around is the shipping of every clime; enormous ferry-boats radiating in all directions; forests of masts along the wharfs bearing the flags of all nations. And where so much is strange, there is one consoling fact: you feel yourself at home. You are among brothers, speaking the same language, obeying the same laws, professing the same religion.

MAP OF NEW YORK HARBOUR.

New York city and port of entry, New York county, State of New York, lies at the head of New York Bay, so that there is a good deal of New York about it. It is the commercial emporium of the United States, and if it ever has a rival, it will be on the other side of the continent, somewhere not far from San Francisco. Its area is, practically, the bulk of Manhattan or New York Island, say thirteen miles long by two wide. Its separation from the mainland is caused by the Harlem River, which connects the Hudson and East Rivers, and is itself spanned by a bridge and the Croton aqueduct. New York really possesses every advantage required to build a grand emporium. It extends between two rivers, each navigable for the largest vessels, while its harbour would contain the united or disunited navies, as the case may be, of all nations. The Hudson River, in particular, is for some distance up a mile or more in width, while the East River averages over two-fifths of a mile. The population of New York, with its suburban appendages, including the cities of Brooklyn and Jersey City, is not less than that of Paris.

The harbour is surrounded with small settlements, connected by charmingly-situated villas and country residences. It is toward its northern end that the masts, commencing with a few stragglers, gradually thicken to a forest. In it are three fortified islands. By the strait called the "Narrows," seven miles from the lower part of the city, and

which is, for the space of a mile, about one mile wide, it communicates with the outer harbour, or bay proper, which extends thence to Sandy Hook Light, forty miles from the city, and opens directly into the ocean, forming one of the best roadsteads on the whole Atlantic coasts of America. The approach to the city, as above indicated, is very fine, the shores of the bay being wooded down to the water's edge, and thickly studded with villages, farms, and country seats. The view of the city itself is not so prepossessing; like all large cities, it is almost impossible to find a point from which to grasp the

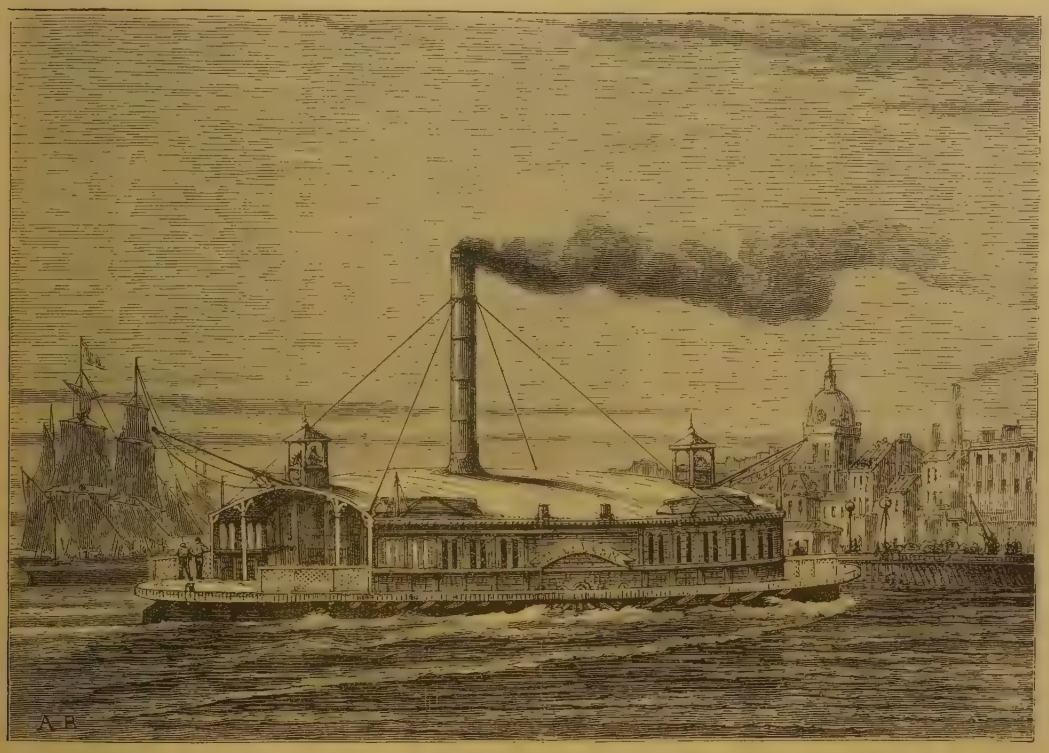
BROOKLYN BRIDGE.

grandeur in its entirety, and the ground on which it is built is nowhere elevated. Therefore there is very little to strike the eye specially. Many a petty town makes a greater show in this respect.

Those ferry-boats! The idea in the minds of most Englishmen is associated with boats that may pass over from one or two to a dozen or so people, possibly a single horse, or a donkey-cart. There you find steamers a couple of hundred or more feet long, with, on either side of the engines, twenty or more feet space. On the true deck there is accommodation for carriages, carts, and horses by the score; above, a spacious saloon for passengers. They have powerful engines, and will easily beat the average steamship. On arrival at the dock, they run into a kind of slip, or basin, with piles around stuck in the soft bottom, which yield should she strike them, and entirely do away with any fear of

concussion. "I may here add," notes an intelligent writer,* "that during my whole travels in the States, I found nothing more perfect in construction and arrangement than the ferries and their boats, the charges for which are most moderate, varying according to distances, and ranging from one halfpenny upwards."

The sailor ashore in New York—and how many, many thousands visit it every year!—will find much to note. The public buildings of the great city are not remarkable; but the one great street, Broadway, which is about eight miles long, and almost straight, is



FERRY-BOAT, NEW YORK HARBOUR.

a very special feature. Unceasing throngs of busy men and women, loungers and idlers, vehicles of all kinds, street cars, omnibuses, and carriages—there are no cabs hardly in New York—pass and re-pass from early morn to dewy eve, while the shops, always called "stores," rival those of the Boulevards or Regent Street. Some of the older streets were, no doubt, as Washington Irving tells us, laid out after the old cow-paths, as they are as narrow and tortuous as those of any European city. The crowded state of Broadway at certain points rivals Cheapside. The writer saw in 1867 a light bridge, which spanned the street, and was intended for the use of ladies and timid pedestrians. When, in 1869, he re-passed through the city it had disappeared, and on inquiry he learnt the reason. Unprincipled roughs had stationed themselves at either end, and levied black-mail toll on old ladies and unsophisticated country-people.

* "Lands of the Slave and the Free," by the Hon. Henry A. Murray.

So extreme is the difference between the intense heat of summer and the equally intense cold of winter in New York, that the residents regularly get thin in the former and stout in the latter. And what a sight are the two rivers at that time! Huge masses of ice, crashing among themselves, and making navigation perilous and sometimes impossible, descending the stream at a rapid rate; docks and slips frozen in; the riggings and shrouds of great ships covered with icicles, and the decks ready for immediate use as skating-rinks. The writer crossed in the ferry-boat from Jersey City to New York, in January, 1875, and acquired a sincere respect for the pilot, who wriggled and zig-zagged his vessel through masses of ice, against which a sharp collision would not have been a joke. When, on the following morning, he left for Liverpool, the steamship herself was a good model for a twelfth-night cake ornament, and had quite enough to do to get out from the wharf. Five days after, in mid-Atlantic, he was sitting on deck in the open air, reading a book, so much milder at such times is it on the open ocean.

But our leave is over, and although it would be pleasant to travel in imaginative company up the beautiful Hudson, and visit one of the wonders of the world—Niagara, to-day a mere holiday excursion from New York—we must away, merely briefly noting before we go another of the wonders of the world, a triumph of engineering skill: the great Brooklyn bridge, which connects that city with New York. Its span is about three-quarters of a mile; large ships can pass under it, while vehicles and pedestrians cross in mid-air over their mast tops, between two great cities, making them one. Brooklyn is a great place for the residences of well-to-do New Yorkers, and the view from its "Heights"—an elevation covered with villas and mansions—is grand and extensive. Apart from this, Brooklyn is a considerable city, with numerous churches and chapels, public buildings, and places of amusement.

Halifax is the northernmost depôt of the whole West India and North American Station, and is often a great rendezvous of the Royal Navy. It is situated on a peninsula on the south-east coast of Nova Scotia, of which it is the capital. Its situation is very picturesque. The town stands on the declivity of a hill about 250 feet high, rising from one of the finest harbours in the world. The city front is lined with handsome wharfs, while merchants' houses, dwellings, and public edifices arrange themselves on tiers, stretching along and up the sides of the hill. It has fine wide streets; the principal one, which runs round the edge of the harbour, is capitally paved. The harbour opposite the town, where ships usually anchor, is rather more than a mile wide, and after narrowing to a quarter of a mile above the upper end of the town, expands into Bedford Basin, a completely land-locked sheet of water. This grand sea-lake has an area of ten square miles, and is capable of containing any number of navies. Halifax possesses another advantage not common to every harbour of North America: it is accessible at all seasons, and navigation is rarely impeded by ice. There are two fine lighthouses at Halifax; that on an island off Sambro Head is 210 feet high. The port possesses many large ships of its own, generally employed in the South Sea whale and seal fishery. It is a very prosperous fishing town in other respects.

The town of Halifax was founded in 1749. The settlers, to the number of 3,500, largely composed of naval and military men, whose expenses out had been paid by the

British Government to assist in the formation of the station, soon cleared the ground from stumps, &c., and having erected a wooden government house and suitable warehouses for stores and provisions, the town was laid out so as to form a number of straight and handsome streets. Planks, doors, window-frames, and other portions of houses, were imported from the New England settlements, and the more laborious portion of the work, which the settlers executed themselves, was performed with great dispatch. At the approach of winter they found themselves comfortably settled, having completed a number of houses and huts, and covered others in a manner which served to protect them from the rigour of the weather, there very severe. There were now assembled at Halifax about 5,000 people, whose labours were suddenly suspended by the intensity of the frost, and there was in consequence considerable enforced idleness. Haliburton* mentions the difficulty that the governor had to employ the settlers by sending them out on various expeditions, in palisading the town, and in other public works.

In addition to £40,000 granted by the British Government for the embarkation and other expenses of the first settlers, Parliament continued to make annual grants for the same purpose, which, in 1755, amounted to the considerable sum of £416,000.

The town of Halifax was no sooner built than the French colonists began to be alarmed, and although they did not think proper to make an open avowal of their jealousy and disgust, they employed their emissaries clandestinely in exciting the Indians to harass the inhabitants with hostilities, in such a manner as should effectually hinder them from extending their plantations, or perhaps, indeed, induce them to abandon the settlement. The Indian chiefs, however, for some time took a different view of the matter, waited upon the governor, and acknowledged themselves subjects of the crown of England. The French court thereupon renewed its intrigues with the Indians, and so far succeeded that for several years the town was frequently attacked in the night, and the English could not stir into the adjoining woods without the danger of being shot, scalped, or taken prisoners.

Among the early laws of Nova Scotia was one by which it was enacted that no debts contracted in England, or in any of the colonies prior to the settlement of Halifax, or to the arrival of the debtor, should be recoverable by law in any court in the province. As an asylum for insolvent debtors, it is natural to suppose that Halifax attracted thither the guilty as well as the unfortunate; and we may form some idea of the state of public morals at that period from an order of Governor Cornwallis, which, after reciting that the dead were usually attended to the grave by neither relatives or friends, twelve citizens should in future be summoned to attend the funeral of each deceased person.

The Nova Scotians are popularly known by Canadians and Americans as "Blue Noses," doubtless from the colour of their nasal appendages in bitter cold weather. It has been already mentioned that Halifax is now a thriving city; but there must have been a period when the people were not particularly enterprising, or else that most veracious individual, "Sam Slick," greatly belied them. Judge Haliburton, in his immortal "Clockmaker," introduces the following conversation with Mr. Slick:—

"'You appear,' said I to Mr. Slick, 'to have travelled over the whole of this province,

* "Historical and Statistical Account of Nova Scotia," by Judge Haliburton.

and to have observed the country and the people with much attention; pray, what is your opinion of the present state and future prospects of Halifax?' 'If you will tell me,' said he, 'when the folks there will wake up, then I can answer you; but they are fast asleep. As to the province, it's a splendid province, and calculated to go ahead; it will grow as fast as a Virginny gall—and they grow so amazing fast, if you put one of your arms round one of their necks to kiss them, by the time you've done they've growed up into women. It's a pretty province, I tell you, good above and better below: surface

THE ISLAND OF ASCENSION.

covered with pastures, meadows, woods, and a nation sight of water privileges; and under the ground full of mines. It puts me in mind of the soup at *Tree*mont house—good enough at top, but dip down and you have the riches—the coal, the iron ore, the gypsum, and what not. As for Halifax, it's well enough in itself, though no great shakes neither; a few sizeable houses, with a proper sight of small ones, like half-a-dozen old hens with their broods of young chickens: but the people, the strange critters, they are all asleep. They walk in their sleep, and talk in their sleep, and what they say one day they forget the next; they say they were dreaming.'" This was first published in England in 1838; all accounts now speak of Halifax as a well-built, paved, and cleanly city, and of its inhabitants as enterprising.

TRISTAN D'ACUNHA.

CHAPTER XII.

Round the World on a Man-of-War (*continued*).

THE AFRICAN STATION.

Its Extent—Ascension—Turtle at a Discount—Sierra Leone—An Unhealthy Station—The Cape of Good Hope—Cape Town—Visit of the Sailor Prince—Grand Festivities—Enthusiasm of the Natives—Loyal Demonstrations—An African "Derby"—Grand Dock Inaugurated—Elephant Hunting—The Parting Ball—The Life of a Boer—Circular Farms—The Diamond Discoveries—A £12,000 Gem—A Sailor First President of the Fields—Precarious Nature of the Search—Natal—Inducements held out to Settlers—St. Helena and Napoleon—Discourteous Treatment of a Fallen Foe—The Home of the Caged Lion.

And now we are off to the last of the British naval stations under consideration—that of the African coast. It is called, in naval phraseology, "The West Coast of Africa and Cape of Good Hope Station," and embraces not merely all that the words imply, but a part of the east coast, including the important colony of Natal. Commencing at latitude 20° N. above the Cape Verd Islands, it includes the islands of Ascension, St. Helena, Tristan d'Acunha, and others already described.

Ascension, which is a British station, with dockyard, and fort garrisoned by artillery and marines, is a barren island, about eight miles long by six broad. Its fort is in lat. 70° 26′ N.: long., 140° 24′ W. It is of volcanic formation, and one of its hills rises to the considerable elevation of 2,870 feet. Until the imprisonment of Napoleon at St. Helena, it was utterly uninhabited. At that period it was garrisoned with a small British force; and so good use was made of their time that it has been partly cultivated and very greatly improved. Irrigation was found, as elsewhere, to work wonders, and as there are magnificent springs, this was rendered easy. Vast numbers of turtle are taken on its shores; and, in consequence, the soldiers prefer the soup of pea, and affect to despise turtle steaks worth half a guinea apiece in London, and fit to rejoice the heart of an alderman! The writer saw the same thing in Vancouver Island, where at the boarding-house of a very large steam saw-mill, the hands struck against the salmon, so abundant on those coasts. They insisted upon not having it more than twice a week for dinner, and that it should be replaced by salt pork. The climate of Ascension is remarkably healthy. The object in occupying it is very similar to the reason for holding the Falkland Islands—to serve as a depôt for stores, coal, and for watering ships cruising in the South Atlantic.

Sierra Leone is, perhaps, of all places in the world, the last to which the sailor would wish to go, albeit its unhealthiness has been, as is the case with Panama, grossly exaggerated. Thus we were told that when a clergyman with some little influence was pestering the Prime Minister for the time being for promotion, the latter would appoint him to the Bishopric of Sierra Leone, knowing well that in a year or so the said bishopric would be vacant and ready for another gentleman!

Sierra Leone is a British colony, and the capital is Free Town, situated on a peninsula lying between the broad estuary of the Sherboro and the Sierra Leone rivers, connected with the mainland by an isthmus not more than one mile and a half broad. The colony

also includes a number of islands, among which are many good harbours. Its history has one interesting point. When, in 1787, it became a British colony, a company was formed, which included a scheme for making it a home for free negroes, and to prove that colonial produce could be raised profitably without resorting to slave labour. Its prosperity was seriously affected during the French Revolution by the depredations of French cruisers, and in 1808 the company ceded all its rights to the Crown. Its population includes negroes from 200 different African tribes, many of them liberated from slavery and slave-ships, a subject which will be treated hereafter in this work.

One of the great industries of Sierra Leone is the manufacture of cocoa-nut oil. The factories are extensive affairs. It is a very beautiful country, on the whole, and when acclimatised, Europeans find that they can live splendidly on the products of the country. The fisheries, both sea and river, are wonderfully productive, and employ about 1,500 natives. Boat-building is carried on to some extent, the splendid forests yielding timber so large that canoes capable of holding a hundred men have been made from a single log, like those already mentioned in connection with the north-west coast of America. Many of the West Indian products have been introduced; sugar, coffee, indigo, ginger, cotton, and rice thrive well, as do Indian corn, the yam, plantain, pumpkins, banana, cocoa, baobab, pine-apple, orange, lime, guava, papaw, pomegranate, orange, and lime. Poultry is particularly abundant. It therefore might claim attention as a fruitful and productive country but for the malaria of its swampy rivers and low lands.

And now, leaving Sierra Leone, our good ship makes for the Cape of Good Hope, passing, mostly far out at sea, down that coast along which the Portuguese mariners crept so cautiously yet so surely till Diaz and Da Gama reached South Africa, while the latter showed them the way to the fabled Cathaia, the Orient—India, China, and the Spice Islands.

In the year 1486 "The Cape" of capes *par excellence*, which rarely nowadays bears its full title, was discovered by Bartholomew de Diaz, a commander in the service of John II. of Portugal. He did not proceed to the eastward of it, and it was reserved for the great Vasco da Gama—afterwards the first Viceroy of India—an incident in whose career forms, by-the-by, the plot of *L'Africaine*, Meyerbeer's grand opera, to double it. It was called at first Cabo Tormentoso—"the Cape of Storms"—but by royal desire was changed to that of "Buon Esperanza"—"Good Hope"—the title it still bears. Cape Colony was acquired by Great Britain in 1620, although for a long time it was practically in the hands of the Dutch, a colony having been planted by their East India Company. The Dutch held it in this way till 1795, when the territory was once more taken by our country. It was returned to the Dutch at the Peace of Amiens, only to be snatched from them again in 1806, and finally confirmed to Britain at the general peace of 1815.

The population, including the Boers, or farmers of Dutch descent, Hottentots, Kaffirs, and Malays, is not probably over 600,000, while the original territory is about 700 miles long by 400 wide, having an area of not far from 200,000 square miles. The capital of the colony is Cape Town, lying at the foot, as every schoolboy knows, of the celebrated Table Mountain.

A recent writer, Mr. Boyle,* speaks cautiously of Cape Town and its people. There are respectable, but not very noticeable, public buildings. "Some old Dutch houses there are, distinguishable chiefly by a superlative flatness and an extra allowance of windows. The population is about 30,000 souls, white, black, and mixed. I should incline to think more than half fall into the third category. They seem to be hospitable and good-natured in all classes. . . . There is complaint of slowness, indecision, and general 'want of go' about the place. Dutch blood is said to be still too apparent in business,

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in local government, and in society. I suppose there is sound basis for these accusations, since trade is migrating so rapidly towards the rival mart of Port Elizabeth. . . . But ten years ago the entire export of wool passed through Cape Town. Last year, as I find in the official returns, 28,000,000 lbs. were shipped at the eastern port out of the whole 37,000,000 lbs. produced in the colony. The gas-lamps, put up by a sort of *coup d'état* in the municipality, were not lighted until last year, owing to the opposition of the Dutch town councillors. They urged that decent people didn't want to be out at night, and the ill-disposed didn't deserve illumination. Such facts seem to show that the city is not quite up to the mark in all respects."

* "To the Cape for Diamonds." By Frederick Boyle.

Simon's Bay, near Table Bay, where Cape Town is situated, is a great rendezvous for the navy; there are docks and soldiers there, and a small town. The bay abounds in fish. The Rev. John Milner, chaplain of the *Galatea*, says that during the visit of Prince Alfred, "large shoals of fish (a sort of coarse mackerel) were seen all over the bay; numbers came alongside, and several of them were harpooned with grains by some of the youngsters from the accommodation-ladder. Later in the day a seal rose, and continued fishing and rising in the most leisurely manner. At one time it was within

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easy rifle distance, and might have been shot from the ship."* Fish and meat are so plentiful in the colony that living is excessively cheap.

The visit of his Royal Highness the Sailor Prince, in 1867, will long be remembered in the colony. That, and the recent diamond discoveries, prove that the people cannot be accused of sloth and want of enterprise. On arrival at Simon's Bay, the first vessels made out were the *Racoon*, on which Prince Alfred had served his time as lieutenant, the *Petrel*, just returned from landing poor Livingstone at the Zambesi, and the receiving-ship *Seringapatam*. Soon followed official visits, dinner, ball, and fireworks from the ships. When the Prince was to proceed to Cape Town, all the ships fired a royal salute, and

* "The Cruise of H.M. Ship *Galatea*." By the Rev. John Milner, B.A., Chaplain, and Oswald W. Brierly.

the fort also, as he landed at the jetty, where he was received by a guard of honour of the 99th Regiment. A short distance from the landing-place, at the entrance to the main street, was a pretty arch, decorated with flowering shrubs, and the leaves of the silver-tree. On his way to this his Royal Highness was met by a deputation from the inhabitants of Simon's Town and of the Malay population. "This was a very interesting sight; the chief men, dressed in Oriental costumes, with bright-coloured robes and turbans, stood in front, and two of them held short wands decorated with paper flowers of various colours. The Duke shook hands with them, and then they touched him with their wands. They seemed very much pleased, and looked at him in an earnest and affectionate manner. Several of the Malays stood round with drawn swords, apparently acting as a guard of honour. The crowd round formed a very motley group of people of all colours—negroes, brown Asiatics, Hottentots, and men, women, and children of every hue. The policemen had enough to do to keep them back as they pressed up close round the Duke." After loyal addresses had been received, and responded to, the Prince and suite drove off for Cape Town, the ride to which is graphically described by the chaplain and artist of the expedition. "The morning was very lovely. Looking to seaward was the Cape of Good Hope, Cape Hanglip, and the high, broken shores of Hottentot Holland, seen over the clear blue water of the bay. The horses, carriages, escort with their drawn swords, all dashing at a rattling pace along the sands in the bright sunshine, and the long lines of small breakers on the beach, was one of the most exhilarating sights imaginable. In places the cavalcade emerged from the sands up on to where the road skirts a rocky shore, and where at this season of the year beautiful arum lilies and other bright flowers were growing in the greatest profusion. About four miles from Simon's Bay, we passed a small cove, called Fish-hook Bay, where a few families of Malay fishermen reside. A whale they had killed in the bay the evening before lay anchored ready for 'cutting in.' A small flag, called by whalers a 'whiff,' was sticking up in it. We could see from the road that it was one of the usual southern 'right' whales which occasionally come into Simon's Bay, and are captured there. After crossing the last of the sands, we reached Kalk Bay, a collection of small houses where the people from Cape Town come to stay in the summer. As we proceeded, fresh carriages of private individuals and horsemen continued to join on behind, and it was necessary to keep a bright look-out to prevent them rushing in between the two carriages containing the Duke and Governor, with their suites. Various small unpretending arches (every poor man having put up one on his own account), with flags and flowers, spanned the road in different places between Simon's Town and Farmer Peck's, a small inn about nine miles from the anchorage, which used formerly to have the following eccentric sign-board:—

'THE GENTLE SHEPHERD OF SALISBURY PLAIN.

'FARMER PECKS.

'Multum in Parvo! Pro bono publico!
Entertainment for man or beast, all of a row,
Lekher kost, as much as you please;
Excellent beds, without any fleas.

Nos patriam fugimus! now we are here,
Vivamus! let us live by selling beer.
On donne à boire et à manger ici;
Come in and try it, whoever you be.'

This house was decorated with evergreens, and over the door was a stuffed South African leopard springing on an antelope. A little further on, after discussing lunch at a half-way house, a goodly number of volunteer cavalry, in blue-and-white uniforms, appeared to escort the Sailor Prince into Cape Town. The road passes through pleasant country; but the thick red dust which rose as the cavalcade proceeded was overwhelming. It was a South African version of the 'Derby' on a hot summer's day. At various places parties of school-children, arrayed along the road-side, sung the National Anthem in little piping voices, the singing being generally conducted by mild-looking men in black gloves and spectacles. At one place stood an old Malay, playing 'God Save the Queen' on a cracked clarionet, who, quite absorbed as he was in his music, and apparently unconscious of all around him, looked exceedingly comic. There was everywhere a great scrambling crowd of Malays and black boys, running and tumbling over each other, shouting and laughing; women with children tied on their backs, old men, and girls dressed in every conceivable kind of ragged rig and picturesque colour, with head-gear of a wonderful nature, huge Malay hats, almost parasols in size, and resembling the thatch of an English corn-rick; crowns of old black hats; turbans of all proportions and colours, swelled the procession as it swept along. When the cavalry-trumpet sounded 'trot,' the cloud of dust increased tenfold. Everybody, apparently, who could muster a horse was mounted, so that ahead and on every side the carriage in which we were following the Duke was hemmed in and surrounded, and everything became mixed up in one thick cloud of red dust, in which helmets, swords, hats, puggeries, turbans, and horses almost disappeared. The crowd hurraed louder than ever, pigs squealed, dogs howled, riders tumbled off; the excitement was irresistible. 'Oh! this is fun; stand up—never mind dignity. Whoo-whoop!' and we were rushed into the cloud of dust, to escape being utterly swamped and left astern of the Duke, standing up in the carriage, and holding on in front, to catch what glimpses we could of what was going on. . . . Some of the arches were very beautiful; they were all decorated with flowering shrubs, flowers (particularly the arum lily) and leaves of the silver-tree. In one the words WELCOME BACK* were formed with oranges. One of the most curious had on its top a large steamship, with *Galatea* inscribed upon it, and a funnel out of which real smoke was made to issue as the Duke passed under. Six little boys dressed as sailors formed the crew, and stood up singing 'Rule Britannia.'" And so they arrived in Cape Town, to have *levées*, receptions, entertainments, and balls by the dozen.

While at the Cape the Duke of Edinburgh laid the foundation of a grand graving-dock, an adjunct to the Table Bay Harbour Works, a most valuable and important addition to the resources of the Royal Navy, enabling the largest ironclad to be repaired at that distant point. The dock is four hundred feet long, and ninety feet wide. For more than forty years previously frequent but unsuccessful efforts had been made to provide

* Alluding to the previous visit of Prince Alfred when a midshipman.

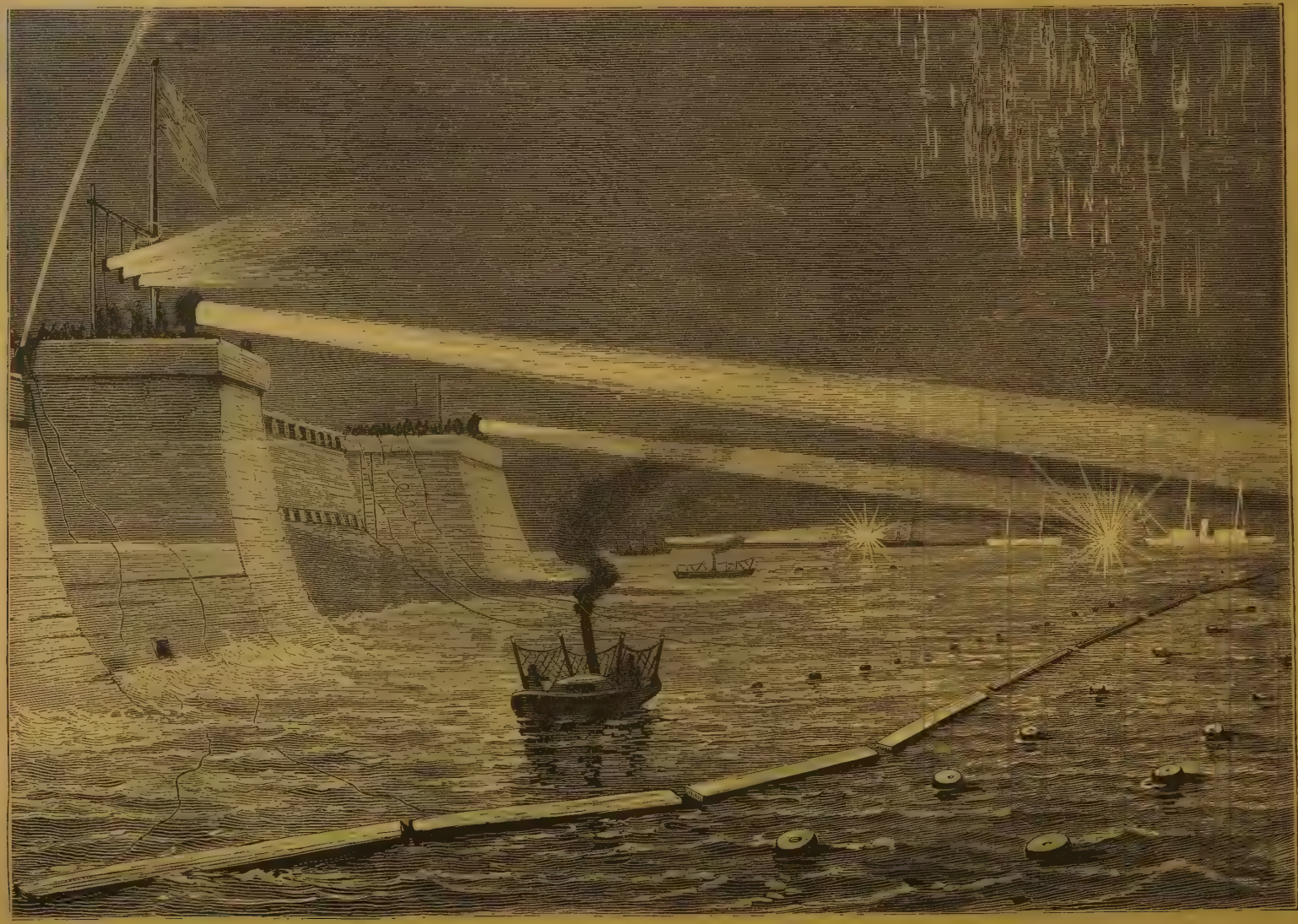
a harbour of refuge in Table Bay; now, in addition to this splendid dock, it has a fine breakwater.

Officers of the Royal Navy may occasionally get the opportunity afforded the Prince, of attending an elephant hunt. From the neighbourhood of the Cape itself the biggest of beasts has long retired; but three hundred miles up the coast, at Featherbed Bay, where there is a settlement, it is still possible to enjoy some sport.

To leave the port or town of Knysna—where, by-the-by, the Duke was entertained at a great feed of South African oysters—was found to be difficult and perilous. The entrance to the harbour is very fine; a high cliff comes down sheer to the sea on one side, while on the other there is an angular bluff, with a cave through it. As the *Petrel* steamed out, a large group of the ladies of the district waved their handkerchiefs, and the elephant-hunters cheered. It was now evident, from the appearance of the bar, that the *Petrel* had not come out a moment too soon. A heavy sea of rollers extended nearly the whole way across the mouth of the harbour, and broke into a long thundering crest of foam, leaving only one small space on the western side clear of actual surf. For this opening the *Petrel* steered; but even there the swell was so great that the vessel reared and pitched fearfully, and touched the bottom as she dipped astern into the deep trough of the sea. The slightest accident to the rudder, and nothing short of a miracle could have saved them from going on to the rocks, where a tremendous surf was breaking. Providentially, she got out safely, and soon the party was transferred to the *Racoon*, which returned to Simon's Bay.

On his return from the elephant hunt, the Prince gave a parting ball. A capital ball-room, 135 feet long by 44 wide, was improvised out of an open boat-house by a party of blue-jackets, who, by means of ships' lanterns, flags, arms arranged as ornaments, and beautiful ferns and flowers, effected a transformation as wonderful as anything recorded in the "Arabian Nights," the crowning feature of the decorations being the head of one of the elephants from the Knysna, surmounting an arch of evergreens. Most of the visitors had to come all the way from Cape Town, and during the afternoon were to be seen flocking along the sands in vehicles of every description, many being conveyed to Simon's Town a part of the distance in a navy steam-tender or the *Galatea's* steam-launch. The ball was, of course, a grand success.

This not being a history of Cape Colony, but rather of what the sailor will find at or near its ports and harbours, the writer is relieved from any necessity of treating on past or present troubles with the Boers or the natives. Of course, everything was tinted *couleur de rose* at the Prince's visit, albeit at that very time the colony was in a bad way, with over speculation among the commercial classes, a cattle plague, disease among sheep, and a grape-disease. Mr. Frederick Boyle, whose recent work on the Diamond-fields has been already quoted, and who had to leave a steamer short of coal at Saldanha Bay, seventy or eighty miles from Cape Town, and proceed by a rather expensive route, presents a picture far from gratifying of some of the districts through which he passed. At Saldanha Bay agriculture gave such poor returns that it did not even pay to export produce to the Cape. The settlers *exist*, but can hardly be said to live. They have plenty of cattle and sheep, sufficient maize and corn, but little money. Mr. Boyle describes the homestead of a Boer substantially as follows:—



TORPEDO EXPERIMENTS AT PORTSMOUTH WITH THE ELECTRIC LIGHT.

Reaching the home of a farmer named Vasson, he found himself in the midst of a scene quite patriarchal. All the plain before the house was white with sheep and lambs, drinking at the "dam" or in long troughs. The dam is an indispensable institution in a country where springs are scarce, and where a river is a prodigy. It is the new settler's first work, even before erecting his house, to find a hollow space, and dam it up, so as to make a reservoir. He then proceeds to make the best sun-dried bricks he can, and to erect his cottage, usually of two, and rarely more than three, rooms. Not unfrequently, there

THE "GALATEA" PASSING KNYSNA HEADS.

is a garden, hardly worthy of the name, where a few potatoes and onions are raised. The farmers, more especially the Dutch, are "the heaviest and largest in the world." At an early age their drowsy habits and copious feeding run them into flesh. "Three times a day the family gorges itself upon lumps of mutton, fried in the tallowy fat of the sheep's tail, or else—their only change of diet—upon the tasteless *fricadel*—kneaded balls of meat and onions, likewise swimming in grease. Very few vegetables they have, and those are rarely used. Brown bread they make, but scarcely touch it. Fancy existing from birth to death upon mutton scraps, half boiled, half fried, in tallow! So doth the Boer. It is not eating, but devouring, with him. And fancy the existence! always alone with one's father, mother, brothers, and sisters; of whom not one can do more than write his name, scarce one can read, not one has heard of any event in history, nor dreamed of such

existing things as art or science, or poetry, or aught that pertains to civilisation." An unpleasant picture, truly, and one to which there are many exceptions. It was doubtful whether Mr. Vasson could read. His farm was several thousand acres. The ancient law of Cape Colony gave the settler 3,000 *morgen*—something more than 6,000 acres. He was not obliged to take so much, but, whatever the size of his farm might be, it must be *circular* in shape; and as the circumference of a property could only touch the adjoining grants it follows that there were immense corners or tracts of land left waste between. Clever and ambitious farmers, in these later days, have been silently absorbing said corners into their estates, greatly increasing their size.

The Cape cannot be recommended to the notice of poor emigrants, but to capitalists it offers splendid inducements. Mr. Irons, in his work on the Cape and Natal settlements,* cites several actual cases, showing the profits on capital invested in sheep-farming. In one case £1,250 realised, in about three years, £2,860, which includes the sale of the wool. A second statement gives the profits on an outlay of £2,225, after seven years. It amounts to over £8,000. Rents in the towns are low; beef and mutton do not exceed fourpence per pound, while bread, made largely from imported flour, is a shilling and upwards per four-pound loaf.

So many sailors have made for the Diamond-fields, since their discovery, from the Cape, Port Elizabeth, or Natal, and so many more will do the same, as any new deposit is found, that it will not be out of place here to give the facts concerning them. In 1871, when Mr. Boyle visited them, the ride up cost from £12 to £16, with additional expenses for meals, &c. Of course, a majority of the 50,000 men who have been congregated at times at the various fields could not and did not afford this; but it is a tramp of 750 miles from Cape Town, or 450 from Port Elizabeth or Natal. From the Cape, a railway, for about sixty miles, eases some of the distance. On the journey up, which reads very like Western experiences in America, two of three mules were twenty-six hours and a half in harness, and covered 110 miles! South Africa requires a society for the prevention of cruelty to animals, one would think. Mr. Boyle also saw another way by which the colonist may become rapidly wealthy—in ostrich-farming. Broods, purchased for £5 to £9, in three years gain their full plumages, and yield in feathers £4 to £6 per annum. They become quite tame, are not delicate to rear, and are easily managed. And they also met the down coaches from the fields, on one of which a young fellow—almost a boy—had no less than 235 carats with him. At last they reached Pniel ("a camp"), a place which once held 5,000 workers and delvers, and in November, 1872, was reduced to a few hundred, like the deserted diggings in California and Australia. It had, however, yielded largely for a time.

The words, "Here be diamonds," are to be found inscribed on an old mission-map of a part of the Colony, of the date of 1750, or thereabouts. In 1867, a trader up country, near Hope Town, saw the children of a Boer playing with some pebbles, picked up along the banks of the Orange River. An ostrich-hunter named O'Reilly was present, and the pair of them were struck with the appearance of one of the stones, and they tried it on glass, scratching the sash all over. A bargain was soon struck: O'Reilly was to take it to Cape Town; and there Sir P. E. Wodehouse soon gave him £500 for it. Then came an

* "The Settler's Guide to the Cape of Good Hope," &c., by Mr. Irons.

excitement, of course. In 1869, a Hottentot shepherd, named Swartzboy, brought to a country store a gem of 83½ carats. The shopman, in his master's absence, did not like to risk the £200 worth of goods demanded. Swartzboy passed on to the farm of one Niekirk, where he asked, and eventually got, £400. Niekirk sold it for £12,000 the same day! Now, of course, the excitement became a fevered frenzy.

Supreme among the camps around Pniel reigned Mr. President Parker, a sailor who, leaving the sea, had turned trader. Mr. Parker, with his counsellors, were absolute in power, and, all in all, administered justice very fairly. Ducking in the river was the mildest punishment; the naval "cat" came next; while dragging through the river was the third grade; last of all came the "spread eagle," in which the culprit was extended flat, hands and feet staked down, and so exposed to the angry sun.

In a short time, the yield from the various fields was not under £300,000 per month, and claims were sold at hundreds and thousands of pounds apiece. Then came a time of depression, when the dealers would not buy, or only at terribly low prices. Meantime, although meat was always cheap, everything else was very high. A cabbage, for example, often fetched 10s., a water-melon 15s., and onions and green figs a shilling apiece. Forage for horses was half-a-crown a bundle of four pounds. To-day they are little higher on the Fields than in other parts of the Colony.

That a number of diggers have made snug little piles, ranging from two or three to eight, ten, or more thousand pounds, is undeniable, but they were very exceptional cases, after all. The dealers in diamonds, though, often turned over immense sums very rapidly.

And now, before taking our leave of the African station, let us pay a flying visit to Natal, which colony has been steadily rising of late years, and which offers many advantages to the visitor and settler. The climate, in spite of the hot sirocco which sometimes blows over it, and the severe thunderstorms, is, all in all, superior to most of the African climates, inasmuch as the rainfall is as nearly as possible that of London, and it falls at the period when most wanted—at the time of greatest warmth and most active vegetation. The productions of Natal are even more varied than those of the Cape, while arrowroot, sugar, cotton, and Indian corn are staple articles. *The* great industries are cattle and sheep-rearing, and, as in all parts of South Africa, meat is excessively cheap, retailing at threepence or fourpence a pound.

Natal was discovered by Vasco da Gama, and received from him the name of Terra Natalis—"Land of the Nativity"—because of his arriving on Christmas Day. Until 1823 it was little known or visited. A settlement was then formed by a party of Englishmen, who were joined by a number of dissatisfied Dutchmen from the Cape. In 1838 the British Government took possession. There was a squabble, the colonists being somewhat defiant for a while, and some little fighting ensued. It was proposed by the settlers to proclaim the Republic of Natalia, but on the appearance of a strong British force, they subsided quietly, and Natal was placed under the control of the Governor of the Cape. In 1856, it was erected into a separate colony.

To moderate capitalists it offers many advantages. Land is granted on the easiest terms, usually four shillings per acre; and free grants are given, in proportion to a settler's capital: £500 capital receives a land order for 200 acres. An arrowroot plantation and

factory can be started for £500 or £600, and a coffee plantation for something over £1,000. Sugar-planting, &c., is much more expensive, and would require for plant, &c., £5,000, or more.

And now, on the way home from the African station, the good ship will pass close to, if indeed it does not touch at, the Island of St. Helena, a common place of refreshment for vessels sailing to the northward. Vessels coming southward rarely do so; sailing ships can hardly make the island. It lies some 1,200 miles from the African coasts, in mid-ocean. St. Helena has much the appearance, seen from a distance, of the summit of some great submarine mountain, its rugged and perpendicular cliffs rising from the shore to altitudes from 300 to 1,500 feet. In a few scattered places there are deep, precipitous ravines, opening to the sea, whose embouchures form difficult but still possible landing-places for the fishermen. In one of the largest of these, towards the north-west, the capital and port of the island, James Town, is situated. It is the residence of the authorities. The anchorage is good and sufficiently deep, and the port is well protected from the winds. The town is entered by an arched gateway, within which is a spacious parade, lined with official residences, and faced by a handsome church. The town is in no way remarkable, but has well-supplied shops. The leading inhabitants prefer to live outside it on the higher and cooler plateaux of the island, where many of them have very fine country houses, foremost of which is a villa named Plantation House, belonging to the governor, surrounded by pleasant grounds, handsome trees and shrubs. In the garden grounds tropical and ordinary fruits and vegetables flourish; the mango, banana, tamarind, and sugar-cane; the orange, citron, grape, fig, and olive, equally with the common fruits of England. The yam and all the European vegetables abound; three crops of potatoes have been often raised from the same ground in one year. The hills are covered with the cabbage tree, and the log-wood and gum-wood trees. Cattle and sheep are scarce, but goats browse in immense herds on the hills. No beasts of prey are to be met, but there are plenty of unpleasant and poisonous insects. Game and fish are abundant, and turtles are often found. All in all, it is not a bad place for Jack after a long voyage, although not considered healthy. It has a military governor, and there are barracks.

The interior is a plateau, divided by low mountains, the former averaging 1,500 feet above the sea. The island is undoubtedly of volcanic origin. It was discovered on the 22nd May (St. Helena's Day), by Juan de Nova, a Portuguese. The Dutch first held it, and it was wrested from them first by England in 1673, Charles II. soon afterwards granting it to the East India Company, who, with the exception of the period of Napoleon's imprisonment, held the proprietorship to 1834, when it became an appanage of the Crown.

The fame of the little island rests on its having been the prison of the great disturber of Europe. Every reader knows the circumstances which preceded that event. He had gone to Rochefort with the object of embarking for America, but finding the whole coast so blockaded as to render that scheme impracticable, surrendered himself to Captain Maitland, commander of the English man-of-war *Bellerophon*, who immediately set sail for Torbay. No notice whatever was taken of his letter—an uncourteous proceeding, to say the least of it, towards a fallen foe—and on the 7th of August he was removed

to the *Northumberland*, the flag-ship of Sir George Cockburn, which immediately set sail for St. Helena.

On arrival the imperial captive was at first lodged in a sort of inn. The following day the ex-emperor and suite rode out to visit Longwood, the seat selected for his residence, and when returning noted a small villa with a pavilion attached to it, about two miles from the town, the residence of Mr. Balcombe, an inhabitant of the island. The spot attracted the emperor's notice, and the admiral, who had accompanied him, thought it

ST. HELENA.

would be better for him to remain there than to go back to the town, where the sentinels at the doors and the gaping crowds in a manner confined him to his chamber. The place pleased the emperor, for the position was quiet, and commanded a fine view. The pavilion was a kind of summer-house on a pointed eminence, about fifty paces from the house, where the family were accustomed to resort in fine weather, and this was the retreat hired for the temporary abode of the emperor. It contained only one room on the ground-floor, without curtains or shutters, and scarcely possessed a seat; and when Napoleon retired to rest, one of the windows had to be barricaded, so draughty was it, in order to exclude the night air, to which he had become particularly sensitive. What a contrast to the gay palaces of France!

In December the emperor removed to Longwood, riding thither on a small Cape

horse, and in his uniform of a chasseur of the guards. The road was lined with spectators, and he was received at the entrance to Longwood by a guard under arms, who rendered the prescribed honour to their illustrious captive. The place, which had been a farm of the East India Company, is situated on one of the highest parts of the island, and the difference between its temperature and that of the valley below is very great. It is surrounded by a level height of some extent, and is near the eastern coast. It is stated that continual and frequently violent winds blow regularly from the same quarter. The sun was rarely seen, and there were heavy rainfalls. The water, conveyed to Longwood in pipes, was found to be so unwholesome as to require boiling before it was fit for use. The surroundings were barren rocks, gloomy deep valleys, and desolate gullies, the only redeeming feature being a glimpse of the ocean on one hand. All this after La Belle France!

Longwood as a residence had not much to boast of. The building was rambling and inconveniently arranged; it had been built up by degrees, as the wants of its former inmates had increased. One or two of the suite slept in lofts, reached by ladders and trap-doors. The windows and beds were curtainless, and the furniture mean and scanty. Inhospitable and in bad taste, ye in power at the time! In front of the place, and separated by a tolerably deep ravine, the 53rd Regiment was encamped in detached bodies on the neighbouring heights. Here the caged lion spent the last five weary years of his life till called away by the God of Battles.

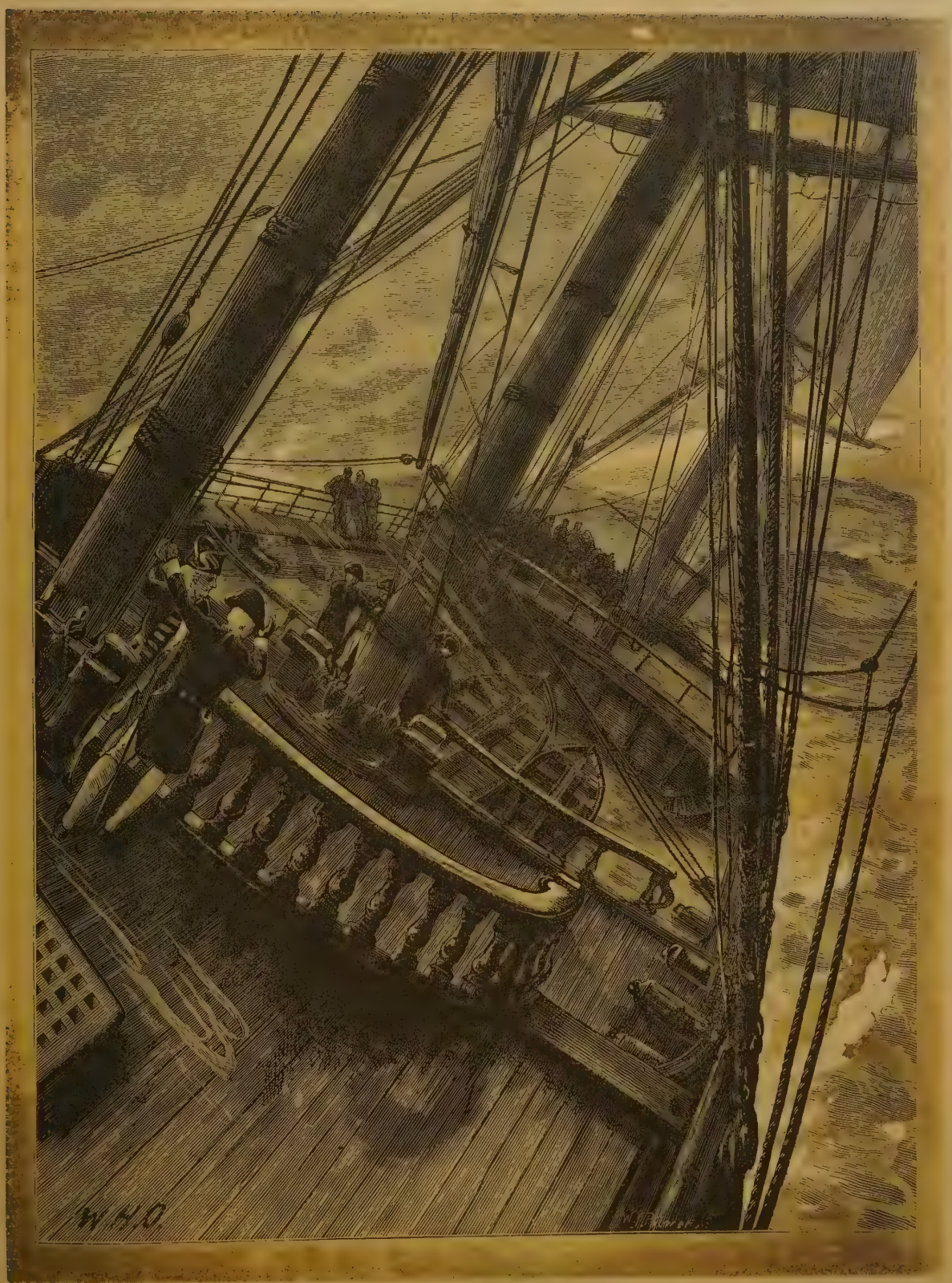
CHAPTER XIII.

The Service.—Officers' Life on Board.

Conditions of Life on Ship-board—A Model Ward-room—An Admiral's Cabin—Captains and Captains—The Sailor and his Superior Officers—A Contrast—A Commander of the Old School—Jack Larmour—Lord Cochrane's Experiences—His Chest Curtailed—The Stinking Ship—The First Command—Shaving under Difficulties—The *Speedy* and her Prizes—The Doctor—On Board a Gun-boat—Cabin and Dispensary—Cockroaches and Centipedes—Other horrors—The Naval Chaplain—His Duties—Stories of an Amateur—The Engineer—His Increasing Importance—Popularity of the Navy—Nelson always a Model Commander—The Idol of his Colleagues, Officers, and Men—Taking the Men into his Confidence—The Action between the *Bellona* and *Courageux*—Captain Falknor's Speech to the Crew—An Obsolete Custom—Crossing the Line—Neptune's Visit to the Quarter-deck—The Navy of To-day—Its Backbone—Progressive Increase in the Size of Vessels—Naval Volunteers—A Noble Movement—Excellent Results—The Naval Reserve.

In the previous pages we have given some account of the various stations visited by the Royal Navy of Great Britain. Let us next take a glance at the ships themselves—the quarter-deck, the captain's cabin, and the ward-room. In a word, let us see how the officers of a ship live, move, and have their being on board.

Their condition depends very much on their ship, their captain, and themselves. The first point may be dismissed briefly, as the general improvement in all descriptions of vessels, including their interior arrangements, is too marked to need mentioning. The ward-room of a modern man-of-war is often as well furnished as any other dining-room—handsomely carpeted, the sides adorned with pictures, with comfortable chairs and lounges,



ON DECK OF A MAN-OF-WAR, EIGHTEENTH CENTURY.

and excellent appointments at table. In the ward-room of a Russian corvette visited by the writer, he found a saloon large enough for a ball, with piano, and gorgeous side-board, set out as in the houses of most of the northern nations of Europe, with sundry bottles and incitives to emptying them, in the shape of salt anchovies and salmon, caviare and cheese. In a British flag-ship he found the admiral's cabin, while in port at least, a perfect little bijou of a drawing-room, with harmonium and piano, vases of flowers, portfolios of drawings, an elaborate stove, and all else that could conduce to comfort and luxury. Outside of this was a more plainly-furnished cabin, used as a dining-room. Of course much of this disappears at sea. The china and glass are securely packed, and all of the smaller loose articles stowed away; the piano covered up in canvas and securely "tied up" to the side; likely enough the carpet removed, and a rough canvas substituted. Still, all is ship-shape and neat as a new pin. The few "old tubs" of vessels still in the service are rarely employed beyond trifling harbour duties, or are kept for emergencies on foreign stations. They will soon disappear, to be replaced by smart and handy little gun-boats or other craft, where, if the accommodations are limited, at least the very most is made of the room at command. How different all this is to many of the vessels of the last century and commencement of this, described by our nautical novelists as little better than colliers, pest ships, and tubs, smelling of pitch, paint, bilge-water, tar, and rum! Readers will remember Marryat's captain, who, with his wife, was so inordinately fond of pork that he turned his ship into a floating pig-sty. At his dinner there appeared mock-turtle soup (of pig's head); boiled pork and pease pudding; roast spare rib; sausages and pettitoes; and, last of all, sucking-pig. He will doubtless remember how he was eventually frightened off the ship, then about to proceed to the West Indies, by the doctor telling him that with his habit of living he would not give much for his life on that station. But although Marryat's characters were true to the life of his time, you would go far to find a similar example to-day. Captains still have their idiosyncrasies, but not of such a marked nature. There may be indolent captains, like he who was nicknamed "The Sloth;" or, less likely, prying captains, like he in "Peter Simple," who made himself so unpopular that he lost all the good sailors on board, and had to put up with a "scratch crew;" or (a comparatively harmless variety) captains who amuse their officers with the most outrageous yarns, but who are in all else the souls of honour. Who can help laughing over that Captain Kearney, who tells the tale of the Atta of Roses ship? He relates how she had a puncheon of the precious essence on board; it could be smelt three miles off at sea, and the odour was so strong on board that the men fainted when they ventured near the hold. The timbers of the ship became so impregnated with the smell that they could never make any use of her afterwards, till they broke her up and sold her to the shopkeepers of Brighton and Tunbridge-wells, who turned her into scented boxes and fancy articles, and then into money. The absolutely vulgar captain is a thing of the past, for the possibilities of entering "by the hawse-hole," the technical expression applied to the man who was occasionally in the old times promoted from the fo'castle to the quarter-deck, are very rare indeed nowadays. Still, there are gentlemen—and there are gentlemen. The perfect example is a *rara avis* everywhere.

The true reason why a captain may make his officers and men constitute an agreeable happy family, or a perfect pandemonium of discontent and misery, consists in the abuse of his absolute power. That power is necessarily bestowed on him; there must be a head; without good discipline, no vessel can be properly handled, or the emergencies of seamanship and warfare met. But as he can in minor matters have it all his own way, and even in many more important ones can determine absolutely, without the fear of anything or anybody short of a court-martial, he may, and often does, become a martinet, if not a very tyrant.

The subordinate officer's life may be rendered a burden by a cantankerous and exacting captain. Every trifling omission may be magnified into a grave offence. Some captains seem to go on the principle of the Irishman who asked, "Who'll tread on my coat tails?" or of the other, "Did you blow your nose at me, sir?" And again, that which in the captain is no offence is a very serious one on the part of the officer or seaman. He may exhaust the vocabulary of abuse and bad language, but not a retort may be made. In the Royal Navy of to-day, though by no means in the merchant service, this is, however, nearly obsolete. However tyrannically disposed, the language of commanders and officers is nearly sure to be free from disgraceful epithets, blasphemies, and scurrilous abuse, cursing and swearing. Officers should be, and generally are, gentlemen.

A commanding lieutenant of the old school—a type of officer not to be found in the Royal Navy nowadays—is well described by Admiral Cochrane.* "My kind uncle," writes he, "the Hon. John Cochrane, accompanied me on board the *Iliad* for the purpose of introducing me to my future superior officer, Lieutenant Larmour, or, as he was more familiarly known in the service, Jack Larmour—a specimen of the old British seaman, little calculated to inspire exalted ideas of the gentility of the naval profession, though presenting at a glance a personification of its efficiency. Jack was, in fact, one of a not very numerous class, whom, for their superior seamanship, the Admiralty was glad to promote from the forecastle to the quarter-deck, in order that they might mould into ship-shape the questionable materials supplied by parliamentary influence, even then paramount in the navy to a degree which might otherwise have led to disaster. Lucky was the commander who could secure such an officer for his quarter-deck.

"On my introduction, Jack was dressed in the garb of a seaman, with marlinspike slung round his neck, and a lump of grease in his hand, and was busily employed in setting up the rigging. His reception of me was anything but gracious. Indeed, a tall fellow, over six feet high, the nephew of his captain, and a lord to boot, were not very promising recommendations for a midshipman. It is not impossible he might have learned from my uncle something about a military commission of several years' standing; and this, coupled with my age and stature, might easily have impressed him with the idea that he had caught a scapegrace with whom the family did not know what to do, and that he was hence to be saddled with a 'hard bargain.'

"After a little constrained civility on the part of the first lieutenant, who was evidently not very well pleased with the interruption to his avocation, he ordered me to

* "The Autobiography of a Seaman." By Thomas, tenth Earl of Dundonald, G.C.B., Admiral of the Red, &c. &c.

BETWEEN DECKS OF A MAN-OF-WAR, EIGHTEENTH CENTURY.

'get my traps below.' Scarcely was the order complied with, and myself introduced to the midshipman's berth, than I overheard Jack grumbling at the magnitude of my equipments. 'This Lord Cochrane's chest? Does Lord Cochrane think he is going to bring a cabin aboard? Get it up on the main-deck!'

"This order being promptly obeyed, amidst a running fire of similar objurgations, the key of the chest was sent for, and shortly afterwards the sound of sawing became audible. It was now high time to follow my property, which, to my astonishment, had been turned out on the deck—Jack superintending the sawing off one end of the chest just beyond the keyhole, and accompanying the operation by sundry uncomplimentary observations on midshipmen in general, and on myself in particular.

"The metamorphosis being completed to the lieutenant's satisfaction—though not at all to mine, for my neat chest had become an unshapely piece of lumber—he pointed out the 'lubberliness of shore-going people in not making keyholes where they could most easily be got at,' viz., at the end of a chest instead of the middle!" Lord Cochrane took it easily, and acknowledges warmly the service Jack Larmour rendered him in teaching him his profession.

Later, Lord Cochrane, when promoted to a lieutenancy, was dining with Admiral Vandepat, and being seated near him, was asked what dish was before him. "Mentioning its nature," says he, "I asked whether he would permit me to help him. The uncourteous reply was—that whenever he wished for anything he was in the habit of asking for it. Not knowing what to make of a rebuff of this nature, it was met with an inquiry if he would allow me the honour of taking wine with him. 'I never take wine with any man, my lord,' was the unexpected reply, from which it struck me that my lot was cast among Goths, if no worse." Subsequently he found that this apparently gruff old admiral assumed some of this roughness purposely, and that he was one of the kindest commanders living.

In 1798, when with the Mediterranean fleet, ludicrous examples, both of the not very occasional corruption of the period, and the rigid etiquette required by one's superior officer, occurred to Lord Cochrane, and got him into trouble. The first officer, Lieutenant Beaver, was one who carried the latter almost to the verge of despotism. He looked after all that was visible to the eye of the admiral, but permitted "an honest penny to be turned elsewhere." At Tetuan they had purchased and killed bullocks *on board the flagship*, for the use of the whole squadron. The reason for this was that the hides, being valuable, could be stowed away in her hold or empty beef-casks, as especial perquisites to certain persons on board. The fleshy fragments on the hides soon decomposed, and rendered the hold of the vessel so intolerable that she acquired the name of the "Stinking Scotch ship." Lord Cochrane, as junior lieutenant, had much to do with these arrangements, and his unfavourable remarks on these raw-hide speculations did not render those interested very friendly towards him. One day, when at Tetuan, he was allowed to go wild-fowl shooting ashore, and became covered with mud. On arriving rather late at the ship, he thought it more respectful to don a clean uniform before reporting himself on the quarter-deck. He had scarcely made the change, when the first lieutenant came into the ward-room, and harshly demanded of Lord Cochrane the reason for not having reported himself.

His reply was, that as the lieutenant had seen him come up by the side he must be aware that he was not in a fit condition to appear on the quarter-deck. The lieutenant replied so offensively before the ward-room officers, that he was respectfully reminded by Cochrane of a rule he had himself laid down, that "Matters connected with the service were not there to be spoken of." Another retort was followed by the sensible enough reply, "Lieutenant Beaver, we will, if you please, talk of this in another place." Cochrane was immediately reported to the captain by Beaver, as having challenged him: the lieutenant actually demanded a court-martial! And the court-martial was held, the decision being that Cochrane should be admonished to be "more careful in future."

Lord Cochrane was soon after given a command. The vessel to which he was appointed was, even eighty years ago, a mere burlesque of a ship-of-war. She was about the size of an average coasting brig, her burden being 158 tons. She was crowded rather than manned, with a crew of eighty-four men and six officers. Her armament consisted of fourteen 4-*pounders!* a species of gun little larger than a blunderbuss, and formerly known in the service as "minion," an appellation quite appropriate. The cabin had not so much as room for a chair, the floor being entirely occupied by a small table surrounded with lockers, answering the double purpose of store-chests and seats. The difficulty was to get seated, the ceiling being only five feet high, so that the object could only be accomplished by rolling on the lockers: a movement sometimes attended with unpleasant failure. Cochrane's only practicable way of shaving consisted in removing the skylight, and putting his head through to make a toilet-table of the quarter-deck!

On this little vessel—the *Speedy*—Cochrane took a number of prizes, and having on one occasion manned a couple of them with half his crew and sent them away, was forced to tackle the *Gamo*, a Spanish frigate of thirty-two heavy guns and 319 men. The exploit has hardly been excelled in the history of heroic deeds. The commander's orders were not to fire a single gun till they were close to the frigate, and he ran the *Speedy* under her lee, so that her yards were locked among the latter's rigging. The shots from the Spanish guns passed over the little vessel, only injuring the rigging, while the *Speedy's* mere pop-guns could be elevated, and helped to blow up the main-deck of the enemy's ship. The Spaniards speedily found out the disadvantage under which they were fighting, and gave the orders to board the little English vessel; but it was avoided twice by sheering off sufficiently, then giving them a volley of musketry and a broadside before they could recover themselves. After the lapse of an hour, the loss to the *Speedy* was only four men killed and two wounded, but her rigging was so cut up and the sails so riddled that Cochrane told his men they must either take the frigate or be taken themselves, in which case the Spaniards would give no quarter. The doctor, Mr. Guthrie, bravely volunteered to take the helm, and leaving him for the time both commander and crew of the ship, Cochrane and his men were soon on the enemy's deck, the *Speedy* being put close alongside with admirable skill. A portion of the crew had been ordered to blacken their faces and board by the *Gamo's* head. The greater portion of the Spanish crew were prepared to repel boarders in that direction, but stood for a few moments as it were transfixed to the deck by the apparition of so many diabolical-looking figures emerging from the white smoke of the bow guns, while the other men rushed on them from behind

before they could recover from their surprise at the unexpected phenomenon. Observing the Spanish colours still flying, Lord Cochrane ordered one of his men to haul them down, and the crew, without pausing to consider by whose orders they had been struck, and naturally believing it to be the act of their own officers, gave in. The total English loss was three men killed, and one officer and seventeen men wounded. The *Gamo's* loss was the captain, boatswain, and thirteen seamen killed, with forty-one wounded. It became a puzzle what to do with 263 unhurt prisoners, the *Speedy* having only forty-two sound men left. Promptness was necessary; so, driving the prisoners into the hold, with their own guns pointed down the hatchway, and leaving thirty men on the prize, Cochrane shaped the vessel's course to Port Mahon, which was reached safely. Some Barcelona gun-boats, spectators of the action, did not venture to rescue the frigate.

The doctor on board a man-of-war has, perhaps, on the whole, better opportunities and, in times of peace, more leisure than the other officers for noting any circumstances of interest that may occur. Dr. Stables, in his interesting little work,* describes his cabin on board a small gun-boat as a miserable little box, such as at home he would have kept rabbits or guinea-pigs in, but certainly not pigeons. He says that it might do for a commodore—Commodore Nutt. It was ventilated by a small scuttle, seven inches in diameter, which could only be raised in harbour, and beneath which, when he first went to sea, he was obliged to put a leather hat-box to catch the water; unfortunately, the bottom rotted out, and he was at the mercy of the waves. This cabin was alive with scorpions, cockroaches, and other "crawling ferlies,"

"That e'en to name would be unlawfu'."

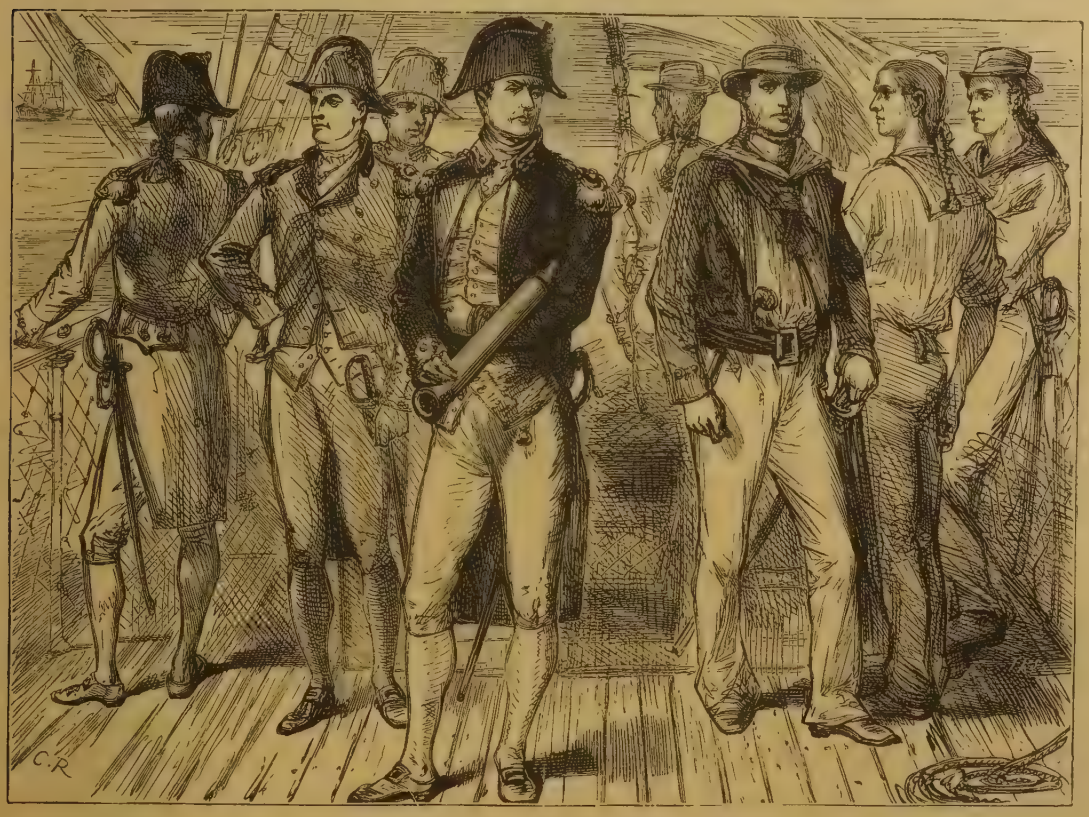
His dispensary was off the steerage, and sister-cabin to the pantry. To it he gained access by a species of crab-walking, squeezing himself past a large brass pump, edging in sideways. The sick would come one by one to the dispensary, and there he saw and treated each case as it arrived, dressing wounds, bruises, and putrefying sores. There was no sick berth attendant, but the lieutenant told off "a little cabin-boy" for his use. He was not a model cabin-boy, like the youngster you see in the theatres. He certainly managed at times to wash out the dispensary, in the intervals of catching cockroaches and making poultices, but in doing the first he broke half the bottles, and making the latter either let them burn or put salt into them. Finally, he smashed so much of the doctor's apparatus that he was kicked out. In both dispensary and what Dr. Stables calls his "burrow," it was difficult to prevent anything from going to utter destruction. The best portions of his uniform got eaten by cockroaches or moulded by damp, while his instruments required cleaning every morning, and even this did not keep the rust at bay.

And then, those terrible cockroaches! To find, when you awake, a couple, each two inches in length, meandering over your face, or even in bed with you!—to find one in a state of decay in the mustard-pot!—to have to remove their droppings and eggs from the edge of your plate previous to eating your soup! and so on, *ad nauseam*. But on small vessels stationed in the tropics—as described by the doctor—there were, and doubtless sometimes are now, other unpleasantnesses. For instance, you are looking for a book, and

* "Medical Life in the Navy."

put your hand on a full-grown scaly scorpion. Nice sensation! the animal twining round your finger, or running up your sleeve! *Dénoûment:* cracking him under foot—joy at escaping a sting!

"You are enjoying your dinner, but have been for some time sensible of a strange, titillating feeling about the region of your ankle; you look down at last, to find a centipede on your sock, with his fifty hind legs—you thank God not his fore-fifty!—



NAVAL OFFICERS AND SEAMEN, EIGHTEENTH CENTURY.

abutting on your shin. *Tableaux:* green-to-red light from the eyes of the many-legged —horror of yourself as you wait till he thinks proper to 'move on.'

"To awake in the morning, and find a large, healthy-looking tarantula squatting on your pillow, within ten inches of your nose, with his basilisk eyes fixed on yours, and apparently saying: 'You're awake, are you? I've been sitting here all the morning, watching you.'

"You think, if you move, he'll bite you somewhere—and if he *does* bite you, you'll go mad, and dance *ad libitum*—so you twist your mouth in the opposite direction, and ejaculate—'Steward!' But the steward does not come; in fact, he is forward, seeing after breakfast. Meanwhile, the gentleman on the pillow is moving his horizontal mandibles in a most threatening manner; and just as he moves for your nose, you tumble

out of your bed with a shriek, and, if a very nervous person, probably run on deck in your shirt!"

The doctor's last description of an accumulation of these horrors is fearful to even think about. The bulkheads all around your berth are black with cock and hen-roaches, a few of which are nipping your toe, and running off with little bits of the skin of your leg; while a troop of ants are carrying a dead one over your pillow; musquitoes and flies attacking you everywhere; rats running in and rats running out; your lamp just flickering and dying away into darkness, with the delicious certainty that an indefinite number of earwigs and scorpions, besides two centipedes and a tarantula, are hiding themselves somewhere in your cabin! All this is possible; still Dr. Stables describes life on other vessels under more favourable auspices.

The important addition of a chaplain to the establishment on board our ships of war seems, from the following letter of George, Duke of Buckingham, to have been first adopted in the year 1626:—

"The Duke of Buckingham to the University of Cambridge.

"After my hearty commendations. His Majesty having given order for preachers to goe in every of his ships to sea, choyce hath been made of one Mr. Daniel Ambrose, Master of Arts and Fellow of your College, to be one. Accordingly, upon signification to me to come hither, I thought good to intimate unto you, that His Majesty is so careful of such scholars as are willing to put themselves forward in so good actions, as that he will expect—and I doubt not but that you will accordingly take order—that the said Mr. Ambrose shall suffer noe detriment in his place with you, by this his employment; but that you will rather take care that he shall have all immunities and emoluments with advantage, which have been formerly, or may be, granted to any upon the like service. Wherein, not doubting of your affectionate care, I rest,

"Your very loving friend,

"*York House, July 29th*, 1626." "G. Buckingham.

Sailors, in spite of their outbursts of recklessness, have frequently, from the very nature of their perilous calling, an amount of seriousness underlying their character, which makes them particularly amenable to religious influences. The chaplain on a large modern ironclad or frigate has as many men in his charge, as regards spiritual matters, as the vicar of a country town or large village, whilst he has many more opportunities of reaching them directly. Many of our naval chaplains are noble fellows; and to them come the sailors in any distress of mind, for the soothing advice so readily given. He may not dare to interfere with the powers that be when they are in danger of punishment, except in very rare cases; but he can point them out their path of duty, and how to walk in it, making them better sailors and happier men. He can lend them an occasional book, or write for them an occasional letter home; induce them to refrain from dissipation when on liberty; cheer them in the hour of greatest peril, while on the watery deep, and give them an occasional reproof, but in kindness, not in anger. To his brother officers he has even better opportunities of doing good than to the men. On the smaller classes of vessels —gun-boats and the like—the captain has to perform chaplain's duties, by reading prayers on the Sabbath. This is the case also on well-regulated steamships or passenger sailing-vessels of the merchant service. The fine steamers of such lines as the Cunard, or White Star, of the Royal Mail Company, or of the P. and O., have, of course, frequently, some clergyman, minister, or missionary on board, who is willing to celebrate divine service.

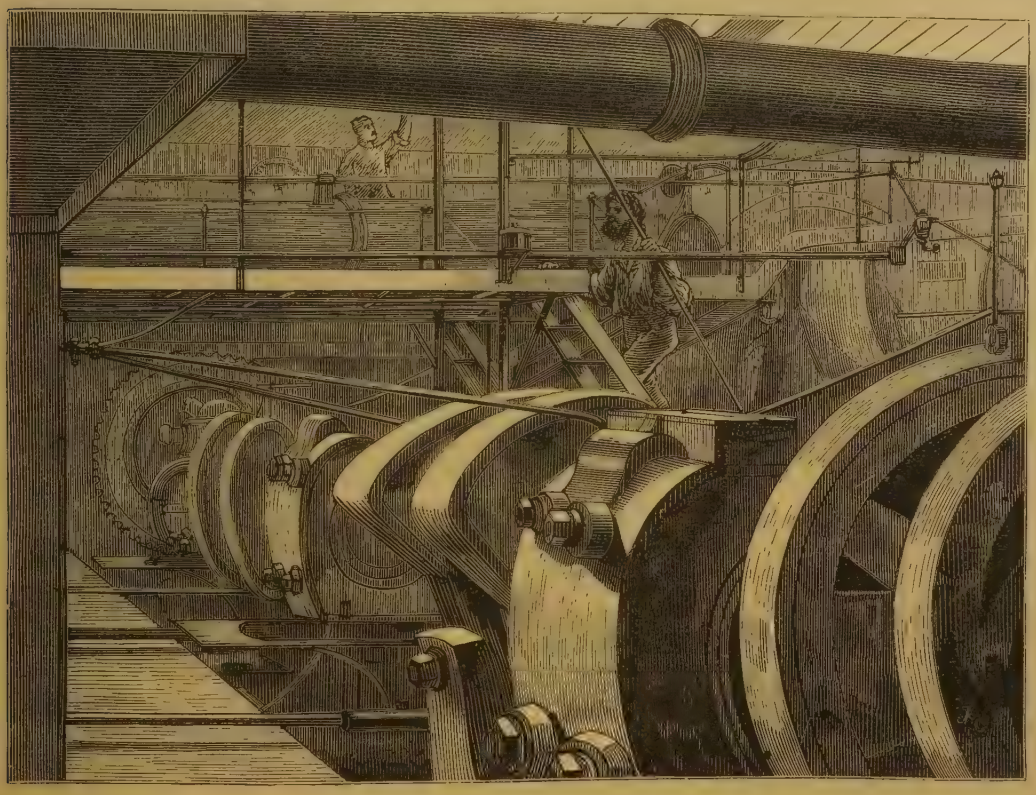
A Committee of the Lower House of Convocation has recently collected an immense amount of statistics regarding the provision made by private ship-owners for the spiritual welfare of their men, and the result as regards England is not at all satisfactory. In point of fact, it is rarely made at all. The committee seeks to encourage the growth of religion among sailors by providing suitable and comfortable church accommodation at all ports, and urges owners to instruct their captains as to conducting divine service on Sundays, and to furnish Bibles, prayer-books, and instructive works of secular literature. Too much must not, however, be expected from Jack. The hardships and perils through which he passes excuse much of his exuberance ashore. It is his holiday-time; and, so long as he is only gay, and not abandoned, the most rigid must admit that he has earned the right to recreation. A distinguished French naval officer used to say that the sailor fortunately had no memory. "Happy for him," said he, "that he is thus oblivious. Did he remember all the gales and tempests, the cold, the drenching rain, the misery, the privations, the peril to life and limb which he has endured, he would never, when he sets foot on shore, go to sea again. But he has no memory. The clouds roll away, the sea is calm, the sun shines, the boat bears him to land; the wine flows; the music strikes up; pretty girls smile: he forgets all the past, and lives only in the present."

While the chaplain may, and no doubt generally does, earn the respect and esteem of the men, woe to any example of the "Chadband" order who shall be found on board. This is, in the Royal Navy, almost impossible; but it sometimes happens that, on passenger ships, some sanctimonious and fanatical individual or other has had a very rough time of it. He is regarded as a kind of Jonah. In a recent number of that best of American magazines, the *Atlantic Monthly*, the woes and trials of one poor Joseph Primrose, a well-meaning minister who went out to America in 1742, are amusingly recounted. There were, aboard the *Polly*, the vessel in which he took passage, several of the crew who viewed their religious exercises askance. "These men," says he, "had been foremost in a general indignation uprising that had ensued upon the stoppage of their daily allowance of rum; which step had been taken on my earnest recommendation. For this injurious drink we had substituted a harmless and refreshing beverage concocted of molasses, vinegar, and water, from a choice receipt I had come upon in a medical book aboard the vessel. The sailors, to a man, refused to touch it, egged on by these contumacious fellows, and more especially by one Springer, a daring villain, who reviled me with bitter execrations. In fine, the captain was obliged, for our own safety, to restore the cherished dram; and I had the mortification to find myself, from that time forth, an object of dislike and suspicion to these men, who were kept within decent bounds only by respect for their master. I became convinced, on reflection, that I had gone the wrong way about this unfortunate piece of business; having, in fact, made a very serious error in the beginning, gentle argument and good example being more apt to bring about the desired end than compulsory measures, these dulling the understanding by rousing the temper, especially among persons of the meaner sort. All my efforts—and they were not few—to place myself on a friendly footing with these men were of no avail: they had conceived the notion that I was their enemy, and met all my advances with obstinate coldness. As Captain Hewlett exacted the daily attendance at prayers of every soul on board, these

knaves were compelled to be on hand with their fellows; but they rarely failed to conduct themselves with such indecent levity as made me rue their presence, playing covertly at cat's-cradle, jack-straws, and what not; besides grinning familiarly in my face, whenever they could contrive to catch my eye." This unseemly behaviour was as nothing to what followed ashore. While addressing a large assemblage, he noted the advent of a number of unmannerly fellows, who, with a great deal of clatter, elbowed their way to the front. "The moment I clapped eyes upon them," says poor Primrose, "I knew them for the sailors who had so persecuted me aboard the *Polly*, and my heart sank at the bare sight of them." They sung, or rather bawled, ribald words to the music of the hymns; and one of them, when rebuked by some gentleman present, whipped out his cutlass, and a general row ensued, which broke up the assembly. A little later, Primrose induced a tavern-keeper to allow him to preach on his premises. "A West Indian vessel coming into port about the middle of April, and a horde of roystering sailors gathering in the common room of the 'Sailor's Rest' to drink, I announced a discourse on the subject of 'gin-guzzling,' choosing one that I had delivered aboard the *Polly*, and which seemed to fit the occasion to a nicety. No sooner had the landlord seen the notice to this effect that I had attached to his door-cheek, than he sends for me to repair to the tavern without loss of time; and on my appearance, in great haste, comes blustering up to me in a most offensive manner, demanding whether I purposed the ruin of his trade, by putting forth of such a mischievous paper; adding, with astounding audacity, that he should certainly lose all the custom I had been the means of fetching to his house, did I persist in my intent. Mark the cunning of the knave! He had encouraged my labours for none other purpose than the bringing of fresh grist to his mill; and here was I, blindly leading precious souls to destruction, the poor dupe of a specious villain—a wretch without bowels! My agony of mind on being thus suddenly enlightened was of such a desperate sort, that, gnashing my teeth, I leapt upon the miscreant, and, bearing him to the ground with an awful crash, beat him about the head and shoulders with the stout cane I carried; and with such good will, that I presently found myself lying in the town gaol, covered with the blood of my enemy, and every bone in my body aching from the unaccustomed exercise. . . . . Truly was I as forlorn and friendless a creature as the world ever saw. My clothing had been rent beyond repair in the shameful struggle, and, yet worse, one of my shoes was gone—how and where I knew not; and although I promised the gaoler's little lad a penny in the event of his finding it, nothing was ever heard of it from that day to this. One thought alone cheered me in the dark abyss into which I was fallen. I had administered wholesome and righteous correction in proper season: hip and thigh had I hewed my enemy; and, to reflect upon that, was as a healing balm to my sore bones." Mr. Primrose was at length released, and returned to England.

Another officer of the Royal Navy—the engineer—deserves particular notice, for his position is becoming daily of more and more importance. It is not merely the care and working of the engines which propel the vessel in which he is concerned; the chief and his subordinates have charge of various hydraulic arrangements often used now-a-days on large vessels, in connection with the steering apparatus; of electrical and gas-producing apparatus; the mechanical arrangements of turrets and gun-carriages; pumping machinery;

the management of steam-launches and torpedoes. Take the great ironclad *Thunderer* (that on which the terrible boiler explosion occurred) as an example: she has *twenty-six* engines for various purposes, apart from the engines used to propel the vessel, which have an actual power of 6,000 horses. The *Téméraire* has *thirty-four* engines distinct from those required for propulsion. A competent authority says that, "with the exception of the paymaster's and surgeon's stores, he is responsible for everything in and outside the



ENGINE-ROOM OF H.M.S. "WARRIOR."

ship (meaning the hull, apart from the navigator's duties), to say nothing of his duties while under weigh." And yet engineers of the navy do not yet either derive the status or emoluments fairly due to them, considering the great and increasing responsibilities thrown upon them of late years. Sir Walter Scott makes Rob Roy express "his contempt of weavers and spinners, and sic-like mechanical persons, and their pursuits;" and in the naval service some such feeling still lingers.

The first serious introduction of steam-vessels into the Royal Navy occurred about the year 1829, the Navy List of that year showing seven, of which three only were commissioned, and these for home ports. No mention is made of engineers; they were simply taken over from the contractor with the vessel, and held no rank whatever. In 1837 an Admiralty Circular conferred warrants on engineers, *who were to rank immediately below*

carpenters; they were to be assisted by boys, trained by themselves. Three years later, the standard was raised, and they were divided into three classes; in 1842 a slight increase of pay was given, and they were advanced to the magnificent rank of "after captains' clerks," and were given a uniform, with buttons having a steam-engine embossed upon them. In 1847 the Government found that the increasing demands of the merchant and passenger service took all the best men (the engineers' pay, to-day, is better on first-class steamship lines than in the Navy), and they were forced to do something. The higher grades were formed into chief engineers, and they were raised to the rank of commissioned officers, taking their place after masters. The first great revolution in regard to the use of steam in the Royal Navy took place in 1849, by means of the screw-propeller. In that year Dupuy Delorme constructed the *Napoleon*, a screw-vessel carrying 100 guns, and with engines of 600 horse-power, and England had to follow. Then came the Russian War, the construction of ironclad batteries, and finally, the ironclad movement, which commenced in England in 1858, by the construction of the *Warrior* and similar vessels.

It becomes a particularly serious question, at the present time, whether the system, as regards the rank and pay of engineers, does not deter the most competent men from entering the Royal Navy. Many very serious explosions and accidents have occurred on board ironclads, which would seem to indicate that our great commercial steamship lines are far better engineered. The Admiralty has organised a system for training students at the dockyard factories, followed up by a course of study at the Naval College, Greenwich; and it is to be hoped that these efforts will lead to greater efficiency in the service. A naval engineer of the present day needs to be a man of liberal education, and of considerable scientific knowledge, both theoretical and practical, and he should then receive on board that recognition which his talents would command ashore. At present, a chief engineer, R.N., ranks with a commander, and other engineers with lieutenants. It is probable that, at some date in the not very distant future, higher ranks will be thrown open to the engineer, as his importance on board is steadily increasing.

The seamen of all nations, it has, in effect, been said, resemble each the other more than do the nations to which they belong. "As," says a well-known writer, "the sea receives and amalgamates the waters of all the rivers which pour into it, so it tends to amalgamate the men who make its waves their home. . . . The seaman from the United States is said to carry to the forecastle a large stock of 'equality and the rights of man,' and to be unpleasantly distinguished by the inbred disrespect for authority which cleaves, perhaps inseparably, to a democrat who believes that he has whipped mankind, and that it is his mission, at due intervals, to whip them again. But, on board, he, too, tones down to the colour of blue water, and is more a seaman than anything else." The French sailor is painted, by Landelle, as the embodiment of the same frolicsome light-heartedness, carelessness of the future, abandonment to impulse, and devotion to his captain, comrades, and ship, with which we are familiar in the English sailor, on the stage. But although depicted as much more polished than, it is to be feared, the average sailor could be in truth, he finishes by saying: "Il est toujours prêt à céder le haut du pavé *à tout autre qu'à un soldat.*" It would seem, then, that the French sailor revenges the treatment of society on the soldiers of his country. Is there not a similar

feeling existing, perhaps to a more limited extent, between the sailors and soldiers of our own country? It hardly, however, extends to the officers of the "United Service."

Another trait of the British sailor's character: Jack will forgive much to the officer who is ever ready, brave, and daring, who is a true seaman in times of peace, and a sailor *militant* in times of war. Lord Nelson, the most heroic seaman the world ever saw, it is pleasant to remember, was equally the idol of his colleagues, of his subordinate officers, *and of his men* for these very reasons. After he had explained to his captains his proposed plan of attack, just prior to the commencement of the battle of Trafalgar, he took the men of the *Victory* into his confidence. He walked over all the decks, speaking kindly to the different classes of seamen, and encouraging them, with his usual affability, praising the manner in which they had barricaded certain parts of the ship. "All was perfect, death-like silence, till just before the action began. Three cheers were given his lordship as he ascended the quarter-deck ladder. He had been particular in recommending cool, steady firing, in preference to a hurrying fire, without aim or precision; and the event justified his lordship's advice, as the masts of his opponents came tumbling down on their decks and over their sides."* After the fatal bullet had done its work, and Nelson was conveyed below, the surgeon came and probed the wound. The ball was extracted; but the dying hero told the medical man how sure he was that his wound was fatal, and begged, when he had dressed it, that he would attend to the other poor fellows, equal sufferers with himself. A boatswain's mate on board the *Brilliant* frigate, shortly afterwards, when first acquainted of the death of Nelson, paid a tribute of affection and honest feeling, which shows how clearly he had gained the hearts of all. The boatswain's mate, then doing duty as boatswain, was ordered to pipe all hands to quarters; he did not respond, and the lieutenant on duty went to inquire the cause. The man had been celebrated for his promptness, as well as bravery, but he was found utterly unnerved, and sobbing like a child. "I can't do it," said he—"poor dear fellow, that I have been in many a hard day with!—and to lose him now! I wouldn't have cared so much for my old father, mother, brothers, or sisters; but to think of parting with poor Nelson!" and he broke down utterly. The officer, honouring his feelings, let him go below. Who does not remember how, when the body of Nelson lay in state at Greenwich, a deputation of the *Victory's* crew paid their last loving respects, tearful and silent, and could scarcely be removed from the scene? or how, when the two Union-Jacks and St. George's ensign were being lowered into the grave at St. Paul's—the colours shattered as was the body of the dead hero—the brave fellows who had borne them each tore off a part of the largest flag, to remind them ever after of England's greatest victory and England's greatest loss? Many an otherwise noble and brave officer has utterly failed in endearing himself to his men; and there can be no doubt of the value of being thoroughly *en rapport* with them—the more as it in no way need relax discipline. It is an implied compliment to a crew from their commander, to be taken, at the proper time, into his confidence. The following anecdote will show how much an action was decided by this, and with how little loss of life.

* *The Naval Chronicle*, vol. xiii. (1806).

The *Bellona*, of 74 guns and 558 men, with a most valuable freight on merchants' account, and commanded by the celebrated Captain R. Faulkner, and the *Brilliant*, a 36-gun frigate, Captain Loggie, sailed from the Tagus in August, 1761. When off Vigo, three sail were discovered approaching the land, and the strangers continued their approach, till they found out the character of the English vessels, and then crowded on all sail, in flight. Upon this, the *Bellona* and *Brilliant* pursued, coming up with them next morning, to find that they would have to engage one ship of 74 guns, the *Courageux*, with 700 men, and two frigates of 36 guns each, the *Malicieuse* and *Ermine*. After exchanging a few broadsides, the French vessels shot ahead; when Captain Loggie, seeing that he could not expect to take either of the smaller vessels, determined to manœuvre, and lead them such a wild-goose chase, that the *Bellona* should have to engage the *Courageux* alone. During the whole engagement, he withstood the united attacks of both the frigates, each of them with equal force to his own, and at last obliged them to sheer off, greatly damaged. Meanwhile, the *Courageux* and *Bellona* had approached each other very fast. The *Courageux*, when within musket-shot, fired her first broadside, and there was much impatience on the *Bellona* to return it; but they were restrained by Faulkner, who called out to them to hold hard, and not to fire till they saw the whites of the Frenchmen's eyes, adding, "Take my word for it, they will never stand the singeing of their whiskers!" His speech to the sailors just before the action is a model of sailor-like advice. "Gentlemen, I have been bred a seaman from my youth, and, consequently, am no orator: but I promise to carry you all near enough, and then you may speak for yourselves. Nevertheless, I think it necessary to acquaint you with the plan I propose to pursue, in taking this ship, that you may be the better prepared. . . . I propose to lead you close on the enemy's larboard quarter, when we will discharge *two* broadsides, and then back astern, and range upon the other quarter, and so tell your guns as you pass. I recommend you at all times to point chiefly at the quarters, with your guns slanting fore and aft; this is the principal part of a ship. If you kill the officers, break the rudder, and snap the braces, she is yours, of course; but, for this reason, I desire you may only fire one round of shot and grape above, and two rounds, shot only, below. Take care and send them home with exactness. This is a rich ship; they will render you, in return, their weight in gold." This programme was very nearly carried out; almost every shot took effect. The French still kept up a very brisk fire, and in a moment the *Bellona's* shrouds and rigging were almost all cut to pieces, and in nine minutes her mizen-mast fell over the stern. Undaunted, Faulkner managed to wear his ship round; the officers and men flew to their respective opposite guns, and carried on, from the larboard side, a fire even more terrible than they had hitherto kept up from the starboard guns. "It was impossible for mortal beings to withstand a battery so incessantly repeated, and so fatally directed, and, in about twenty minutes from the first shot, the French colours were hauled down, and orders were immediately given in the *Bellona* to cease firing, the enemy having struck. The men had left their quarters, and all the officers were on the quarter-deck, congratulating one another on their victory, when, unexpectedly, a round of shot came from the lower tier of the *Courageux*. It is impossible to describe the rage that animated the *Bellona's* crew on this occasion. Without waiting for orders, they flew again to their guns, and in a moment

poured in what they familiarly termed two 'comfortable broadsides' upon the enemy, who now called out loudly for quarter, and firing at length ceased on both sides." The *Courageux* was a mere wreck, having nothing but her foremast and bowsprit standing, several of her ports knocked into one, and her deck rent in a hundred places. She lost 240 killed, and 110 wounded men were put ashore at Lisbon. On board the *Bellona* only *six* men were killed outright, and about twenty-eight wounded; the loss of her mizen was her only serious disaster.

One more possibility in the officer's existence, although now nearly obsolete. The ceremonies formerly attendant on "crossing the line"—*i.e.*, passing over the equator—so often described, have, of late years, been more honoured in the breach than in the observance. On merchant vessels they had become a nuisance, as the sailors often made

FIGHT BETWEEN THE "COURAGEUX" AND THE "BELLONA."

them an opportunity for levying black mail on timid and nervous passengers. In the Royal Navy, they afforded the one chance for "getting even" with unpopular officers; and very roughly was it sometimes accomplished. They are for this reason introduced in this chapter, as the officers had a direct interest in them. With trifling exceptions, the programme was as follows. The men stripped to the waist, wearing only "duck" unmentionables, prepared, immediately after breakfast, for the saturnalia of the day—a day when the ship was *en carnival*, and discipline relaxed. Early in the day, a man at the masthead, peering through a telescope, would announce a boat on the weather-bow, and soon after, a voice from the jibboom was heard hailing the ship, announcing that Neptune wished to come on board. The ship was accordingly hove-to, when a sailor, in fashionable coat, knee-breeches, and powdered hair, came aft, and announced to the commander that he was *gentleman's gentleman* to the god of the sea, who desired an interview. This accorded, the procession of Neptune from the forecastle at once commenced. The triumphal car was a gun-carriage, drawn by half-a-dozen half-naked and grotesquely-painted sailors, their heads covered by wigs of sea-weed. Neptune was always masked, as were many of his

satellites, in order that the officers should not know who enacted the leading *rôles*. The god wore a crown, and held out a trident, on which a dolphin, supposed to have been impaled that morning, was stuck. He had a flowing wig and beard of oakum, and was, in all points, "made-up" for Neptune himself. His suite included a secretary of state, his head stuck all over with long quills; a surgeon, with lancet, pill-box, and medicines; his barber, with a razor cut from an iron hoop, and with an assistant, who carried a tub for a shaving-box. Mrs. Neptune was represented by the ugliest man on board, who, with sea-weed hair and a huge night-cap, carried a baby—one of the boys of the ship—in long clothes; the latter played with a marline-spike, given it to assist in cutting its teeth. The nurse followed, with a bucketful of *burgoo* (thick oatmeal porridge or pudding), and fed the baby incessantly with the cook's iron ladle. Sea-nymphs, selected from the clumsiest and fattest of the crew, helped to swell the retinue. As soon as the procession halted before the captain, behind whom the steward waited, carrying a tray with a bottle of wine and glasses, Neptune and Amphitrite paid submission to the former, as representative of Great Britain, and the god presented him the dolphin. After the interview, in which Neptune not unfrequently poked fun and thrust home-truths at the officers, the captain offered the god and goddess a bumper of wine, and then the rougher part of the ceremony commenced. Neptune would address his court somewhat as follows: "Hark ye, my Tritons, you're here to shave and duck and bleed all as needs it; but you've got to be gentle, or we'll get no more fees. The first of ye as disobeys me, I'll tie to a ten-ton gun, and sink him ten thousand fathoms below, where he shall drink nothing but salt-water and feed on seaweed for the next hundred years." The cow-pen was usually employed for the ducking-bath; it was lined with double canvas, and boarded up, so as to hold several butts of water. Marryat, in the first naval novel he wrote, says: "Many of the officers purchased exemption from shaving and physic by a bottle of rum; but none could escape the sprinkling of salt water, which fell about in great profusion; even the captain received his share. . . . It was easy to perceive, on this occasion, who were favourites with the ship's company, by the degree of severity with which they were treated. The tyro was seated on the side of the cow-pen: he was asked the place of his nativity, and the moment he opened his mouth the shaving-brush of the barber—which was a very large paint-brush—was crammed in, with all the filthy lather, with which they covered his face and chin; this was roughly scraped off with the great razor. The doctor felt his pulse, and prescribed a pill, which was forced into his cheek; and the smelling-bottle, the cork of which was armed with sharp points of pins, was so forcibly applied to his nose as to bring blood. After this, he was thrown backward into the bath, and allowed to scramble out the best way he could." The first-lieutenant, the reader may remember, dodged out of the way for some time, but at last was surrounded, and plied so effectually with buckets of salt water, that he fled down a hatchway. The buckets were pitched after him, "and he fell, like the Roman virgin, covered with the shields of the soldiers." Very unpopular men or officers were made to swallow half a pint of salt water. Those good old times!

Pleasant is it to read of life on board a modern first-class man-of-war. Where there are, perhaps, thirty officers in the ward-room, it would be hard indeed if one cannot

find a kindred spirit, while on such a vessel the band will discourse sweet music while you dine, and soothe you over the walnuts and wine, after the toils of the day, with selections from the best operas, waltzes, and quadrilles. Then comes the coffee, and the post-prandial cigar in the smoking-room. At sea, luncheon is dispensed with, and the regular hour is half-past two; but in port both lunch and dinner are provided, and the officers on leave ashore can return to either. Say that you have extended your ramble in the country, you will have established an appetite by half-past five, the hour when the officers' boat puts off from shore, wharf, or pier. Perhaps the most pleasant evening is the guests' night, one of which is arranged for every week, when the officer can, by notifying the mess caterer, invite a friend or two. The mess caterer is the officer selected to superintend the victualling department, as the wine caterer does the liquid refreshments. It is by no means an enviable position, for it is the Englishman's conceded right to growl, and sailors are equal to the occasion. Dr. Stables remarks on the unfairness of this under-the-table stabbing, when most probably the caterer is doing his best to please. But on a well-regulated ship, where the officers are harmonious, and either not extravagant or with private means, the dinner-hour is the most agreeable time in the day. After the cloth has been removed, and the president, with a due preliminary tap on the table to attract attention, has given the only toast of the evening—"The Queen"—the bandmaster, who has been peering in at the door for some minutes, starts the National Anthem at the right time, and the rest of the evening is devoted to pleasant intercourse, or visits ashore to the places of amusement or houses of hospitable residents.

Before leaving, for the nonce, the Royal Navy, its officers and men, a few facts may be permitted, particularly interesting at the present time. The navy, as now constituted, has for its main backbone fifty-four ironclads. There are of all classes of vessels no less than 462, but more than a fourth of these are merely hulks, doing harbour service, &c., while quite a proportion of the remainder—varying according to the exigencies of the times—are out of commission. There are seventy-eight steam gun-boats and five fine Indian troop-ships. These numbers are drawn from the official Navy List of latest date.

It is said that since the ironclad movement commenced, not less than £300,000,000 has been disbursed (in about twenty years) by the different countries of the world. Even Japan, Peru, Venezuela, Chili, the Argentine Confederation, possess many of this class of vessel, of more or less power. The British fleet, under the command of Vice-Admiral Hornby, in the Mediterranean, &c., though numerically not counting twenty per cent. of the fleets in the days of Nelson and Collingwood, when "a hundred sail of the line" frequently assembled, has cost infinitely more. A cool half million is not an exceptional cost for an ironclad, while one of the latest of our turret-ships, the *Inflexible*, has cost the nation three-quarters of a million sterling at the least. She is to carry four eighty-ton guns. A recent correspondent of a daily journal states that next to Great Britain, "the ironclad fleet of the Sultan ranks foremost among the navies of the world." Be that as it may, there can be little doubt that if Russia had succeeded in acquiring it, it would, with her own fleet, have constituted a very powerful rival.

The progressive augmentation in the size of naval vessels has been rapid in Great

Britain. When Henry VIII. constructed his *Henry Grace de Dieu*, of 1,000 tons,* it was, indeed, a great giant among pigmies, for a vessel of two or three hundred tons was then considered large. At the death of Elizabeth she left forty-two ships, of 17,000 tons in all, and 8,346 men; fifteen of her vessels being 600 tons and upwards. From this period the tonnages of the navy steadily increased. The first really scientific architect, Mr. Phineas Pett, remodelled the navy to good purpose in the reigns of James I. and Charles I. Previous to this time the vessels with their lofty poops and forecastles had greatly resembled Chinese junks. He launched the *Sovereign of the Seas*, a vessel 232 feet in length, and of a number of tons exactly corresponding to the date, 1637, when she left the slips. Cromwell found a navy of fourteen two-deckers, and left one of 150 vessels, of which one-third were line-of-battle ships. He was the first to lay naval estimates before Parliament, and obtained £400,000 per annum for the service. James II. left 108 ships of the line, and sixty-five other vessels of 102,000 tons, with 42,000 men. William III. brought it to 272 ships, of 159,020 tons. George II. left, in 1760, 412 ships, of 321,104 tons. Twenty-two years later the navy had reached 617 vessels, and in 1813 we had the enormous number of 1,000 vessels, of which 256 were of the line, measuring 900,000 tons, carrying 146,000 seamen and marines, and costing £18,000,000 per annum to maintain. But since the peace of 1815, the number of vessels has greatly diminished, while an entirely new era of naval construction has been inaugurated. In the seventeenth century a vessel of 1,500 tons was considered of enormous size. At the end of the eighteenth, 2,500 was the outside limit, whilst there are now many vessels of 4,000 tons, and the navy possesses frigates of 6,000 and upwards. Several of our enormous ironclads have a tonnage of over 11,000 tons, while the *Great Eastern*—of course a *very* exceptional case—has a tonnage of 22,500.

Whilst we have efficient military volunteers enough to form a grand army, our naval volunteers do not number more than the contingents for a couple of large vessels. There are scarcely more than a thousand of the latter, and only three stations. London, Liverpool, and Brighton divide the honour between them of possessing corps. The writer believes that he will be doing a service to many young men—who in their turn may do good service for their country—in briefly detailing the conditions and expenses of joining. In a very short period of time the members have become wonderfully efficient, and the sailor-like appearance of the men is well illustrated by the fact, that at a recent reception at the Mansion House a number of them were taken for men-of-war's men, and so described in several daily journals. Their prowess is illustrated by the prizes distributed by Lady Ashley, at the inspection of the 1st London Corps, in the West India Docks, on February 9th last. Badges were won by the gunner making the best practice with the heavy gun at sea, and by the marksman making the greatest number of points with the rifle. The "Lord Ashley challenge prize," for the best gun's crew at sea, was won by fourteen men of No. 2 battery, who fired forty-two rounds at 1,300 yards in thirty-seven minutes, scoring 411 points out of a possible 504 points. The official report says:—"that further

* Her tonnage being no doubt calculated by what is known as O. M. (old measurement), and which was used up to a late date in England, her actual capacity must have been considerably greater.

comment on the men or their instructor is superfluous." The list included rifle, battery, and boating prizes.

The Royal Navy Artillery Volunteers are raised under an Act passed in 1873, and are directly subject to the authority of the Admiralty. They may be assembled for actual employment, their duties then consisting of coast or harbour service. They are not required to go aloft, or to attend to the engine fires, but in regard to berthing and messing

THE "GREAT HARRY" AND "GREAT EASTERN" IN CONTRAST.

must conform to the arrangements usual with seamen. The force is formed into brigades, each brigade consisting of four or more batteries, of from sixty to eighty men. Each brigade has a lieutenant-commander, and each battery a sub-lieutenant, chief petty officer, first and second-class petty officers, buglers, &c., while the staff includes a lieutenant-instructor, first-class petty officer instructor, surgeon, bugle-major, and armourer. Those desiring to join a corps should communicate with the Secretary of the Admiralty. The annual subscription to the 1st London Corps is one guinea, while each member has to provide himself with two white frocks, one blue serge frock, one pair of blue trousers, one blue cloth cap, &c., black handkerchief, flannel, knife, lanyard, and monkey-jacket, costing in the neighbourhood of six pounds. When on a cruise, in gunboat, the volunteer requires in addition serge trousers and jumpers, flannel shirt, towels, and brush and comb,

canvas bags, &c. The officers' uniforms are the same as those of the Royal Navy, with the exception of silver, for the most part, taking the place of gold. It is more expensive to join the naval than the military volunteers, and the class composing the corps are generally well-to-do young men, a large number of them employed in shipping offices, and mercantile pursuits connected with the sea.

The drills consist of practice with great guns, rifle, pistol, and cutlass exercises. "Efficient" volunteers are entitled to a badge, while men returned five times as efficient may wear one star, and those returned ten times two stars, above said badge. Every volunteer must attend at least two drills a month, until he has obtained the standard of an "efficient." When on actual service, the Royal Naval Artillery Volunteers will receive the same pay, allowances, and victuals as those of relative rank in the navy, and when embarked on any of Her Majesty's ships for more than forty-eight hours, in practice, will either be victualled or receive a money compensation. The cruises in gun-boats, &c., usually last ten days, and the vessel visits many of the Channel ports, &c., more especially off points where gun practice is practicable. A volunteer wounded, either on drill or in actual service, is entitled to the same compensation as any seaman in the navy would be under similar circumstances, and if killed his widow (if any) to the same gratuities out of the Greenwich Hospital Funds as would a Royal Navy seaman's widow. Members who are able to take advantage of the cruise in gun-boats must have attended drill regularly for three months previously. It must be remembered that each man costs the Government from £8 to £10 for the first year, in the expenses incurred in great gun and other practice; and it is therefore made a point of honour to those joining that they will devote sufficient time to their drills to make themselves thoroughly efficient.

The London Naval Artillery Volunteers have a fine vessel, the *President*, now in the West India Docks, on which to exercise, while to accustom them to living on board ship, the old *Rainbow*, off Temple Pier, is open to them, under certain conditions, as a place of residence. A number avail themselves of this: sleep on board in hammocks, and contribute their quota of the mess expenses. The writer is the last to decry other manly exercises, such as cricket, foot-ball, racing, or pedestrianism, but naval volunteering has the advantage of not merely comprising a series of manly exercises, but in being directly practical and specially health-giving.

And to prevent the need of impressment, the Government did well in establishing the Royal Naval Reserve. The latest estimates provided £140,000 for the year; the number, which at present is about 20,000 men, is not to exceed 30,000. The service is divided into two classes: the first class consisting of seamen of the merchant service, and the second, fishermen on the coasts of Great Britain and Ireland. Both divisions are practical sailors, and the value of their services in a time of war would be inestimable. They are required to drill twenty-eight days in each year, for which they receive about £6 per annum, and sundry allowances for travelling, &c. The former class can be drilled at our stations abroad, so that a merchant seaman is not necessarily tied to England, or to mere coasting trade.

CHAPTER XIV.

The Reverse of the Picture—Mutiny.

Bligh's Bread-fruit Expedition—Voyage of the *Bounty*—Otaheite—The Happy Islanders—First Appearance of a Mutinous Spirit—The Cutter Stolen and Recovered—The *Bounty* sails with 1,000 Trees—The Mutiny—Bligh Overpowered and Bound—Abandoned with Eighteen Others—Their Resources—Attacked by Natives—A Boat Voyage of 3,618 miles—Violent Gales—Miserable Condition of the Boat's Crew—Bread by the Ounce—Rum by the Tea-spoonful—Noddies and Boobies—"Who shall have this?"—Off the Barrier Reef—A Haven of Rest—Oyster and Palm-top Stews—Another Thousand Miles of Ocean—Arrival at Coupang—Hospitality of the Residents—Ghastly Looks of the Party—Death of Five of the Number—The *Pandora* Dispatched to Catch the Mutineers—Fourteen in Irons—*Pandora's* Box—The Wreck—Great Loss of Life—Sentences of the Court Martial—The Last of the Mutineers—Pitcairn Island—A Model Settlement—Another Example: The greatest Mutiny of History—40,000 Disaffected Men at one point—Causes—Legitimate Action of the Men at First—Apathy of Government—Serious Organisation—The Spithead Fleet Ordered to Sea—Refusal of the Crews—Concessions Made, and the First Mutiny Quelled—Second Outbreak—Lord Howe's Tact—The Great Mutiny of the Nore—Richard Parker—A Vile Character but Man of Talent—Wins the Men to his Side—Officers Flogged and Ducked—Gallant Duncan's Address—Accessions to the Mutineers—Parker practically Lord High Admiral—His Extravagant Behaviour—Alarm in London—The Movement Dies out by Degrees—Parker's Cause Lost—His Execution—Mutinies at Other Stations—Prompt Action of Lords St. Vincent and Macartney.

The Royal Navy has ever been the glory of our country, but there are spots even on the bright sun. The service has been presented hitherto almost entirely under its best aspects. Example after example of heroic bravery, unmurmuring endurance, and splendid discipline, have been cited. Nor can we err in painting it *couleur de rose*, for its gallant exploits have won it undying fame. But in the service at one time—thank God those times are hardly possible now—mutiny and desertion on a large scale were eventualities to be considered and dreaded; they were at least remote possibilities. In a few instances they became terrible facts. In the merchant service we still hear of painful examples: every reader will remember the case of the *Lennie* mutineers, who murdered the captain and mates in the Bay of Biscay, with the object of selling the ship in Greece, and were defeated by the brave steward, who steered for the coast of France, and was eventually successful in communicating with the French authorities. The example about to be related is a matter of historical fact, from which the naval service in particular may still draw most important lessons.

In the year 1787, being seventeen years after Captain Cook's memorable first voyage, a number of merchants and planters resident in London memorialised his Majesty George III., that the introduction of the bread-fruit tree from the southern Pacific Islands would be of great benefit to the West Indies, and the king complied with their request. A small vessel, the *Bounty*, was prepared, the arrangements for disposing the plants being made by Sir Joseph Banks, long the distinguished President of the Royal Society, and one of the most eminent men of science of the day. Banks had been with Cook among these very islands; indeed, it is stated that in his zeal for acquiring knowledge, he had undergone the process of tattooing himself. The ship was put under the command of Lieutenant Bligh, with officers and crew numbering in all forty-four souls, to whom were added a practical botanist and assistant.

The *Bounty* sailed from Spithead on December 23rd, 1787, and soon encountered very

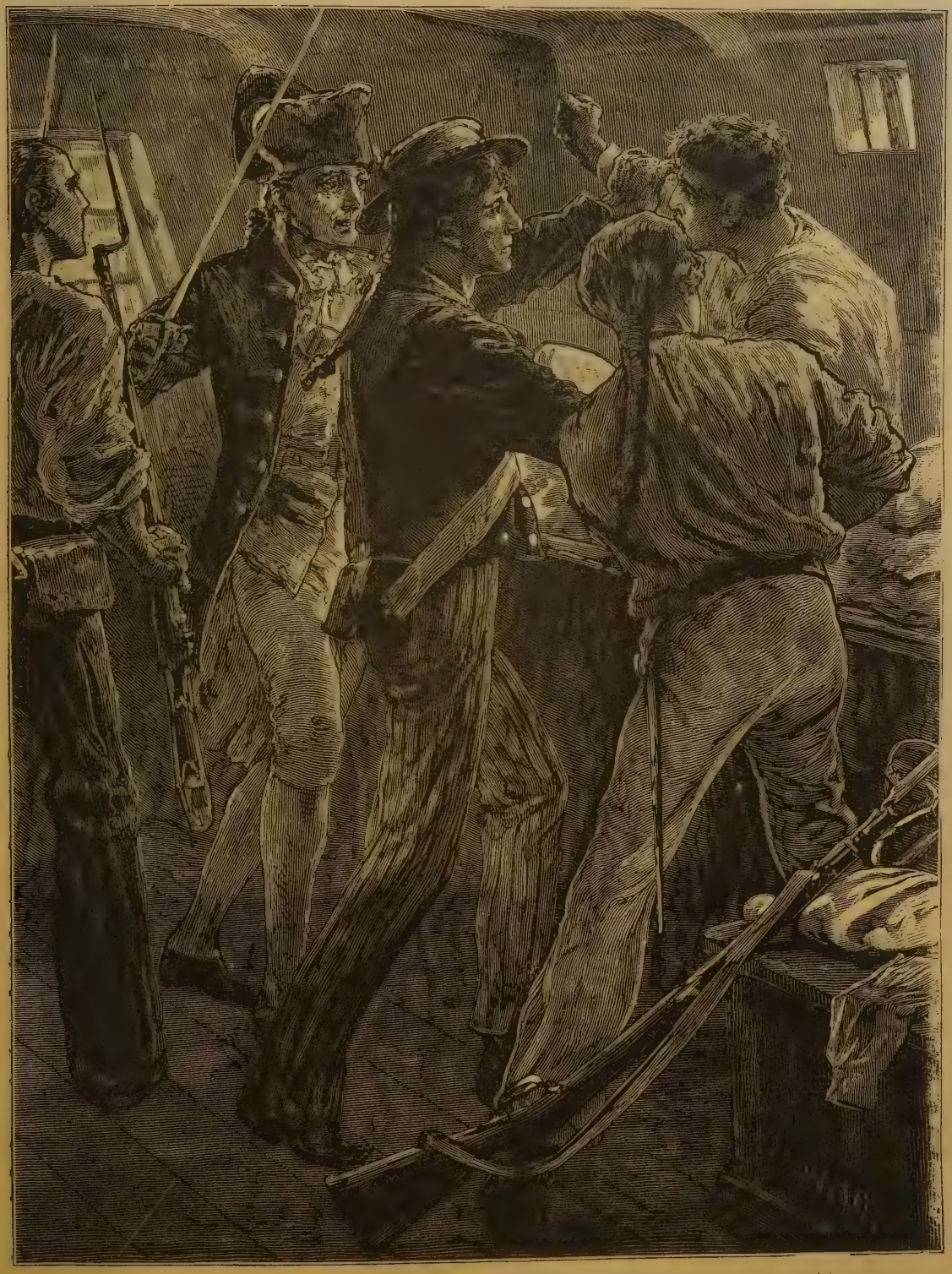
severe weather, which obliged them to refit at Teneriffe. Terrible gales were experienced near Cape Horn, "storms of wind, with hail and sleet, which made it necessary to keep a constant fire night and day, and one of the watch always attended to dry the people's wet clothes. This stormy weather continued for nine days; the ship required pumping every hour; the decks became so leaky that the commander was obliged to allot the great cabin to those who had wet berths to hang their hammocks in."* It was at last determined,

THE CREW OF H.M.S. "BOUNTY" LANDING AT OTAHEITE.

after vainly struggling for thirty days to make headway, to bear away for the Cape of Good Hope. The helm was accordingly put a-weather, to the great joy and satisfaction of all on broad.

They arrived at the Cape late in May, and stopped there for thirty-eight days, refitting, replenishing provisions, and refreshing the worn-out crew. On October 26th they anchored in Matavai Bay, Otaheite, and the natives immediately came out to the ship in great numbers. Tinah, the chief of the district, on hearing of the arrival of the *Bounty*, sent a small pig and a young plantain tree, as a token of friendship, and the ship was liberally supplied with provisions. Handsome presents were made to Tinah, and he was told that they had been sent to him, on account of the kindness of the people to Captain Cook

* "The Eventful History of the Mutiny and Piratical Seizure of H.M.S. *Bounty*: Its Causes and Consequences."



THE MUTINEERS SEIZING CAPTAIN BLIGH.

during his visit. "Will you not, Tinah," said Bligh, "send something to King George in return?" "Yes," he replied, "I will send him anything I have," and then enumerated the different articles in his power, among which he mentioned the bread-fruit. This was exactly what Bligh wished, and he was told that the bread-fruit trees were what King George would greatly like, and the chief promised that a large number should be placed on board.

The importance of the bread-fruit to these people cannot be over-stated. That old navigator, Dampier, had well described it a hundred years before. "The bread-fruit, as we call it, grows on a large tree, as big and high as our largest apple-trees; it hath a spreading head, full of branches and dark leaves. The fruit grows on the boughs like apples; it is as big as a penny loaf when wheat is at five shillings the bushel; it is of a round shape, and hath a thick, tough rind; when the fruit is ripe, it is yellow and soft, and the taste is sweet and pleasant. The natives of Guam use it for bread. They gather it, when full grown, while it is green and hard; then they bake it in an oven, which scorcheth the rind and makes it black, but they scrape off the outside black crust, and there remains a tender, thin crust; and the inside is soft, tender, and white." The fruit lasts in season eight months. During Lord Anson's two months' stay at Tinian, no ship's bread was consumed, the officers and men all preferring the bread-fruit. Byron speaks of these South Sea Islands, where labour is the merest playwork, the earth affording nearly spontaneously all that the natives need, as

> "The happy shores without a law,
> * * * * * * * *
> Where all partake the earth without dispute,
> And bread itself is gathered as a fruit;
> Where none contest the fields, the woods, the streams,
> The gold-less age, where gold disturbs no dreams."

The Otaheitans of those days were a most harmless, amiable, and unsophisticated people. One day the gudgeon of the cutter's rudder was missing, and was believed to have been stolen. "I thought," says Bligh, "it would have a good effect to punish the boat-keeper in their presence, and accordingly I ordered him a dozen lashes. All who attended the punishment interceded very earnestly to get it mitigated; the women showed great sympathy." The intercourse between the crew and natives was very pleasant. The Otaheitans showed the most perfect ease of manner, with "a candour and sincerity about them that is quite refreshing." When they offered refreshments, for instance, if they were not accepted, they did not press them; they had not the least idea of that ceremonious kind of refusal which expects a second invitation. "Having one day," says Bligh, "exposed myself too much in the sun, I was taken ill, on which all the powerful people, both men and women, collected round me, offering their assistance." On an occasion when the *Bounty* had nearly gone ashore in a tremendous gale of wind, and on another when she did go aground, after all was right again, these kind-hearted people came in crowds to congratulate the captain on her escape; many of them shed tears while the danger seemed imminent. In the evenings, the whole beach was like a parade, crowded

with several hundred men, women, and children, all good-humoured, and affectionate to one another; their sports and games were continued till near dark, when they peaceably returned to their homes. They were particularly cleanly, bathing every morning, and often twice a day.

It is sad to turn from this pleasant picture to find the spirit of desertion and mutiny appearing among the crew. There can be no doubt that the allurements of the island, its charming climate and abundant productions, the friendliness of the natives, and ease of living, were the main causes. Bligh made one fatal mistake in his long stay of over five months, during which the crew had all opportunities of leave ashore. Every man of them had his *tayo*, or friend. From the moment he set his foot ashore he found himself in the midst of ease and indolence, all living in a state of luxury, without submitting to anything approaching real labour. Such enticements were too much for a common sailor, for must he not contrast the islander's happy lot with his own hardships on board?

One morning the small cutter was missing, with three of the crew. They had taken with them eight stands of arms and ammunition. The master was dispatched with one of the chiefs in their pursuit, but before they had got any great distance, they met the boat with five of the natives, who were bringing her back to the ship. "For this service they were handsomely rewarded. The chiefs promised to use every possible means to detect and bring back the deserters, which, in a few days, some of the islanders had so far accomplished as to seize and bind them, but let them loose again on a promise that they would return to their ship, which they did not exactly fulfil, but gave themselves up soon after, on a search being made for them." A few days after this it was found that the cable by which the ship rode had been cut, close to the water's edge, so that it held by only a strand. Bligh considered this the act of one of his own people, who wished the ship to go ashore, so that they might remain at Otaheite. It may, however, have chafed in the natural course of affairs.

And now the *Bounty*, having taken on board over a thousand of the bread-fruit plants, besides other shrubs and fruits, set sail, falling in soon after with many canoes, whose owners and passengers sold them hogs, fowls, and yams, in quantities. Some of the sailing canoes would carry ninety persons. Bligh was congratulating himself on his ship being in good condition, his plants in perfect order, and all his men and officers in good health. On leaving deck on the evening of April 27th he had given directions as to the course and watches. Just before sunrise on the 28th, while he was yet asleep, Mr. Christian, officer of the watch, with three of the men, came into his cabin, and seizing him, tied his hands behind his back, threatening him with instant death if he spoke or made the least noise. "I called, however," says Bligh, "as loud as I could, in hopes of assistance; but they had already secured the officers who were not of their party, by placing sentinels at their doors. There were three men at my cabin-door besides the four within; Christian had only a cutlass in his hand, the others had muskets and bayonets. I was hauled out of bed, and forced on deck in my shirt, suffering great pain from the tightness with which they had tied my hands." The master and master's mate, the gunner, and the gardener, were confined below, and the forecastle hatch was guarded by sentinels. The boatswain was ordered to hoist the launch out, with a threat that he had

better do it instantly, and two of the midshipmen and others were ordered into it. Bligh was simply told, "Hold your tongue, sir, or you are dead this instant!" when he remonstrated. "I continued," says he, "my endeavours to turn the tide of affairs, when Christian changed the cutlass which he had in his hand for a bayonet that was brought to him, and holding me with a strong grip by the cord that tied my hands, he threatened, with many oaths, to kill me immediately, if I would not be quiet; the villains round me had their pieces cocked and bayonets fixed." The boatswain and

BLIGH CAST ADRIFT.

seamen who were to be turned adrift with Bligh were allowed to collect twine, canvas, lines, sails, cordage, and an eight-and-twenty gallon cask of water; the clerk secured one hundred and fifty pounds of bread, with a small quantity of rum and wine, also a quadrant and compass, but he was forbidden to touch the maps, observations, or any of the surveys or drawings. He did, however, secure the journals and captain's commission. The mutineers having forced those of the seamen whom they meant to get rid of into the boat, Christian directed a dram to be served to each of his own crew. Isaac Martin, one of the guard over Bligh, had an inclination to serve him, and fed him with some fruit, his lips being quite parched. This kindness was observed, and Martin was ordered away. The same man, with three others, desired to go with the captain, but this was refused. They begged him to remember that they had no hand in the transaction. "I asked

for arms," says Bligh, "but they laughed at me, and said I was well acquainted with the people among whom I was going, and therefore did not want them; four cutlasses, however, were thrown into the boat after we were veered astern.

"The officers and men being in the boat, they only waited for me, of which the master-at-arms informed Christian, who then said, 'Come, Captain Bligh, your officers and men are now in the boat, and you must go with them; if you attempt to make the least resistance, you will instantly be put to death;' and without further ceremony, with a tribe of armed ruffians about me, I was forced over the side, when they untied my hands." A few pieces of pork were thrown to them, and after undergoing a great deal of ridicule, and having been kept for some time to make sport for these unfeeling wretches, they were at length cast adrift in the open sea. Bligh heard shouts of "Huzza for Otaheite!" among the mutineers for some considerable time after they had parted from the vessel.

In the boat, well weighted down to the water's edge, were nineteen persons, including the commander, master, acting-surgeon, botanist, gunner, boatswain, carpenter, and two midshipmen. On the ship were twenty-five persons, mostly able seamen, but three midshipmen were among the number, two of whom had no choice in the matter, being detained against their will.

Lieutenant Bligh, although a good seaman, was a tyrannical man, and had made himself especially odious on board by reason of his severity, and especially in regard to the issuing of provisions. He had had many disputes with Christian in particular, when his language was of the coarsest order. Still, the desire to remain among the Otaheitans, or, at all events, among these enticing islands, seems to have been the main cause of the mutiny.

It was shown afterwards that Christian had only the night before determined to make his escape on a kind of small raft; that he had informed four of his companions, and that they had supplied him with part of a roast pig, some nails, beads, and other trading articles, and that he abandoned the idea because, when he came on deck to his watch at four a.m., he found an opportunity which he had not expected. He saw Mr. Hayward, the mate of his watch, fall asleep, and the other midshipmen did not put in an appearance at all. He suddenly conceived the idea of the plot, which he disclosed to seven of the men, three of whom had "tasted the cat," and were unfavourable to Bligh. They went to the armourer, and secured the keys of his chest, under the pretence of wanting a musket to fire at a shark, then alongside. Christian then proceeded to secure Lieutenant Bligh, the master, gunner, and botanist. He stated that he had been much annoyed at the frequent abusive and insulting language of his commanding officer. Waking out of a short half-hour's disturbed sleep, to take the command of the deck—finding the mates of the watch asleep—the opportunity tempting, and the ship completely in his power, with a momentary impulse he darted down the fore-hatchway, got possession of the arm-chest, and made the hazardous experiment of arming such of the men as he deemed he could trust. It is said that he intended to send away his captain in a small, wretched boat, worm-eaten and decayed, but the remonstrances of a few of the better-hearted induced him to substitute the cutter.

And now to follow the fortunes of Lieutenant Bligh and his companions. Their first consideration was to examine their resources. There were sixteen pieces of pork, weighing two pounds each, the bread and water as before mentioned, six quarts of rum, and six bottles of wine. Being near the island of Tofoa, they resolved to seek a supply of bread-fruit and water, so as to preserve their other stock, and they did obtain a small quantity of the former, but little water. The natives seeing their defenceless condition meditated their destruction, and speedily crowded the beach, knocking stones together, the preparatory signal for an attack. With some difficulty the seamen succeeded in getting their things together, and got all the men, except John Norton, one of the quartermasters, into the boat, the surf running high. The poor man was literally stoned to death within their sight. They pushed out to sea in all haste, and were followed by volleys of big stones, some of the canoes pursuing them. Their only expedient left to gain time was to throw overboard some of their clothing, which, fortunately, induced the natives to stop and pick them up. Night coming on, the canoes returned to the shore.

The nearest place where they could expect relief was Timor, a distance of full 1,200 leagues, and the men agreed to be put on an allowance, which on calculation was found not to exceed *one ounce* of bread per diem, and a gill of water. Recommending them, therefore, in the most solemn manner, not to depart from their promises, "we bore away," says Bligh, "across a sea where the navigation is but little known, in a small boat, twenty-three feet long from stem to stern, deeply laden with eighteen men. . . . It was about eight at night on the 2nd of May when we bore away under a reefed lug-foresail; and having divided the people into watches, and got the boat into a little order, we returned thanks to God for our miraculous preservation, and in full confidence of His gracious support, I found my mind more at ease than it had been for some time past." Next morning the sun rose fiery and red, a sure indication of a gale, and by eight o'clock it blew a violent storm, the waves running so high that their sail was *becalmed* when between the seas. They lightened the boat by throwing overboard all superfluous articles, and removing the tools, put the bread, on which their very existence depended, in the chest. Miserably wet and cold as were all, Bligh administered a *tea-spoonful* of rum to each at dinner time. The sea still rose, and the fatigue of baling became very great. Next morning at daylight the men's limbs were benumbed, and another spoonful of spirit was administered. Whatever might be said of Bligh's previous conduct, there is no doubt that at this juncture he exerted himself wonderfully and very judiciously to save the lives of all. Their dinner this day consisted of five small cocoa-nuts. On the night of the 4th the gale abated, and they examined the bread, much of which was found to be damaged and rotten, but it was still preserved for use. On the 6th they hooked a fish, "but," says the commander, "we were miserably disappointed by its being lost in trying to get it into the boat." They were terribly cramped for want of room on board, although Bligh did for the best by putting them watch and watch, so that half of them at a time could lie at the bottom of the boat. On the 7th they passed close to some rocky isles, from which two large sailing canoes came out and pursued hotly, but gave over the chase in the afternoon. This day heavy rain fell, when everybody set to work to catch some, with such success that they not merely quenched their thirst, but increased

their stock to thirty-five gallons. As a corresponding disadvantage they got wet through. On the 8th the allowance issued was an ounce and a half of pork, a tea-spoonful of rum, half a pint of cocoa-nut milk, and an ounce of bread. Bligh constructed a pair of scales of two cocoa-nut shells, using pistol-balls for weights. The next nine days brought bad weather, and much rain, the sea breaking over the boat so much that two men were kept constantly baling, and it was necessary to keep the boat before the waves to prevent her filling. When day broke it showed a miserable set of beings, full of wants, aches, and pains, and nothing to relieve them. They found some comfort by wringing their clothes in sea-water, by which means they found a certain limited amount of warmth. But though all were shivering with cold and wet, the commander was obliged to tell them that the rum ration—one tea-spoonful—must for the present be discontinued, as it was running low.

"During the whole of the afternoon of the 21st," says Bligh, "we were so covered with rain and salt water that we could scarcely see. We suffered extreme cold, and every one dreaded the approach of night. Sleep, though we longed for it, afforded no comfort; for my own part, I almost lived without it. * * * The misery we suffered this night exceeded the preceding. The sea flew over us with great force, and kept us baling with horror and anxiety. At dawn of day I found every one in a most distressed condition, and I began to fear that another such night would put an end to the lives of several, who seemed no longer able to support their sufferings. I served an allowance of *two* tea-spoonfuls of rum; after drinking which, and having wrung our clothes, and taken our breakfast of bread and water, we became a little refreshed." On the 24th, for the first time in fifteen days, they experienced the warmth of the sun, and dried their now threadbare garments.

On the 25th, at mid-day, some noddies flew so near the boat that one was caught by hand. This bird, about the size of a small pigeon, was divided into eighteen portions, and allotted by the method known as "*Who shall have this?*" in which one person, who turns his back to the caterer, is asked the question, as each piece is indicated. This system gives every one the chance of securing the best share. Bligh used to speak of the amusement it gave the poor half-starved people when the beak and claws fell to his lot. That and the following day two boobies, which are about as large as ducks, were also caught. The sun came out so powerfully that several of the people were seized with faintness. But the capture of two more boobies revived their spirits, and as from the birds, and other signs, Mr. Bligh had no doubt they were near land, the feelings of all became more animated. On the morning of the 28th the "barrier reef" of what was then known as the eastern coast of New Holland, now Australia, appeared, with the surf and breakers outside, and smooth water within. The difficulty was to find a passage; but at last a fine opening was discovered, and through this the boat passed rapidly with a strong stream, and came immediately into smooth water. Their past hardships seemed all at once forgotten. The coast appeared, and in the evening they landed on the sandy point of an island, where they soon found that the rocks were covered with oysters, and that plenty of fresh water was attainable. By help of a small sun-glass a fire was made, and soon a stew of oysters, pork, and bread was concocted, which gladdened their hearts,

each receiving a full pint. The 29th of May being the anniversary of the restoration of Charles II., the spot was not inappropriately named Restoration Island.

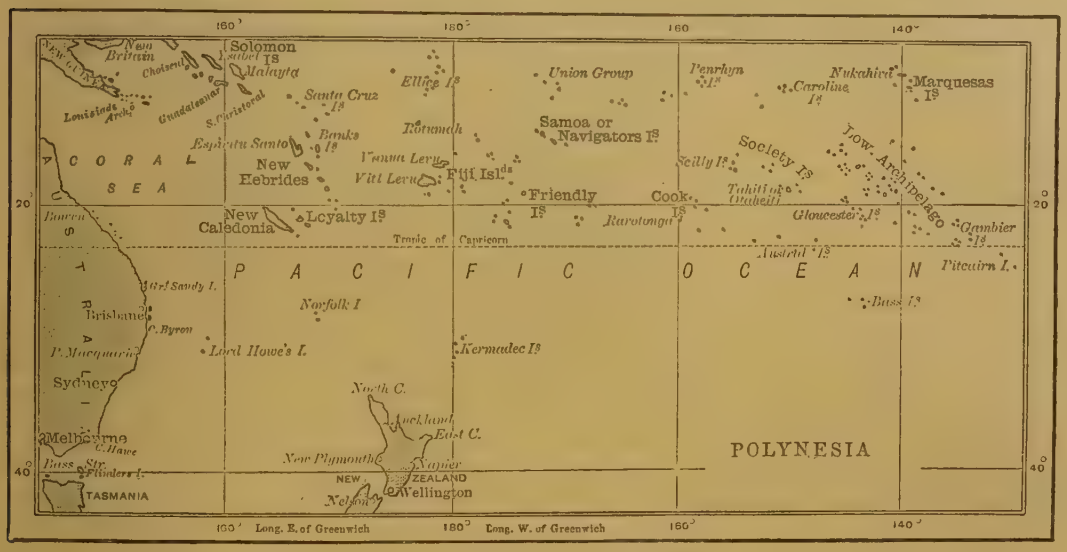
Bligh soon noted the alteration for the better in the looks of his men, which proved the value of oysters, stewed, as they sometimes were, with fresh green palm-tops. Strange to say, that the mutinous spirit, which had been satisfactorily absent before, broke out in one or two of the men, and Bligh had, in one instance, to seize a cutlass and order the man to defend himself. The threatened outbreak ended quietly.

But although the worst of their voyage was over, their troubles in other ways were serious. While among the islands off the coast of Australia several of them were seriously affected with weakness, dizziness, and violent pains in their bowels. Infinitesimal quantities of wine were administered, to their great benefit. A party was sent out on one of the islands to catch birds, and they returned with a dozen noddies; these and a few clams were all they obtained. On the 3rd of June they left Cape York, and once more launched their little boat on the open ocean. On the 5th a booby was caught by the hand, the blood of which was divided among three of the men who were weakest, and the bird kept for next day's dinner. The following day the sea ran high, and kept breaking over the boat. Mr. Ledward, the surgeon, and Lebogue, an old hardy sailor, appeared to be breaking up fast, and no other assistance could be given them than a tea-spoonful or two of wine. On the morning of the 10th there was a visible alteration for the worse in many of the people. Their countenances were ghastly and hollow, their limbs swollen, and all extremely debilitated; some seeming to have lost their reason. But next day Bligh was able to announce that they had passed the meridian of Timor, and the following morning land was sighted with expressions of universal joy and satisfaction. Forty-one days had they been on the ocean in their miserable boat, and by the log they had run 3,618 nautical miles. On the 14th they arrived at Coupang Bay, where they were received with all kinds of hospitality. The party on landing presented the appearance of spectres: their bodies skin and bones, and covered with sores; their clothing in rags. But the strain had been too much for several of them. The botanist died at Coupang, three of the men at Batavia, and one on the passage home. The doctor was left behind and not afterwards heard of. Bligh arrived in England on March 14th, and received much sympathy. He was immediately promoted, and afterwards successfully carried the bread-fruit tree to the West Indies. Meantime the Government naturally proposed to bring the mutineers to trial, whatever it might cost.

The *Pandora*, a frigate of twenty-four guns, and one hundred and sixty men, was selected for the service, and was placed under the command of Captain Edward Edwards, with orders to proceed to Otaheite, and if necessary the other islands. The voyage was destined to end in shipwreck and disaster, but the captain succeeded in securing a part of the mutineers, of whom ten were brought to England, and four drowned on the wreck.

The *Pandora* reached Matavia Bay on the 23rd of March, 1791. The armourer and two of the midshipmen, Mr. Heywood and Mr. Stewart, came off immediately, and showed their willingness to afford information. Four others soon after appeared, and from them the captain learned that the rest of the *Bounty's* people had built a schooner, and sailed

the day before for another part of the island. They were pursued, and the schooner secured, but the mutineers had fled to the mountains. A day or two elapsed, when they ventured down, and when within hearing were ordered to lay down their arms, which they did, and were put in irons. Captain Edwards put them into a round-house, built on the after part of the quarter-deck, in order to isolate them from the crew. According to the statement of one of the prisoners, the midshipmen were kept ironed by the legs, separate from the men, in a kind of round-house, aptly termed "Pandora's Box," which was entered by a scuttle in the roof, about eighteen inches square. "The prisoners' wives visited the ship daily, and brought their children, who were permitted to be carried to their unhappy fathers. To see the poor captives in irons," says the only narrative



MAP OF THE ISLANDS OF THE PACIFIC.

published of the *Pandora's* visit, "weeping over their tender offspring, was too moving a scene for any feeling heart. Their wives brought them ample supplies of every delicacy that the country afforded while we lay there, and behaved with the greatest fidelity and affection to them."* Stewart, the midshipman, had espoused the daughter of an old chief, and they had lived together in the greatest harmony; a beautiful little girl had been the fruit of the union. When Stewart was confined in irons, Peggy, for so her husband had named her, flew with her infant in a canoe to the arms of her husband. The interview was so painful that Stewart begged she might not be admitted on board again. Forbidden to see him, she sank into the greatest dejection, and seemed to have lost all relish for food and existence; she pined away and died two months afterwards.†

All the mutineers that were left on the island having been secured, the ship proceeded to other islands in search of those who had gone away in the *Bounty*. It must be mentioned, however, that two of the men had perished by violent deaths. They had

* "Voyage Round the World," by G. Hamilton. † "A Missionary Voyage to the Southern Pacific."

made friends with a chief, and one of them, Churchill, was his *tayo*, or sworn friend. The chief died suddenly without issue, and Churchill, according to the custom of the country, succeeded to his property and dignity. The other, Thomson, murdered Churchill, probably to acquire his possessions, and was in his turn stoned to death by the natives. Captain Edwards learned that after Bligh had been set adrift, Christian had thrown overboard the greater part of the bread-fruit plants, and divided the property of those they had abandoned. They at first went to an island named Toobouai, where they intended to form a settlement, but the opposition of the natives, and their own quarrels, determined them to revisit Otaheite. There the leading natives were very curious to know what had become of Bligh and the rest, and the mutineers invented a story to the effect that they had unexpectedly fallen in with Captain Cook at an island he had just discovered, and that Lieutenant Bligh was stopping with him, and had appointed Mr. Christian commander of the *Bounty;* and, further, he was now come for additional supplies for them. This story imposed upon the simple-minded natives, and in the course of a very few days the *Bounty* received on board thirty-eight goats, 312 hogs, eight dozen fowls, a bull and a cow, and large quantities of fruit. They also took with them a number of natives, male and female, intending to form a settlement at Toobouai. Skirmishes with the natives, generally brought on by their own violent conduct or robberies, and eternal bickerings among themselves, delayed the progress of their fort, and it was subsequently abandoned, sixteen of the men electing to stop at Otaheite, and the remaining nine leaving finally in the *Bounty*, Christian having been heard frequently to say that his object was to find some uninhabited island, in which there was no harbour, that he would run the ship ashore, and make use of her materials to form a settlement. This was all that Captain Edwards could learn, and after a fruitless search of three months he abandoned further inquiry, and proceeded on his homeward voyage.

Off the east coast of New Holland, the *Pandora* ran on a reef, and was speedily a wreck. In an hour and a half after she struck, there were eight and a half feet of water in her hold, and in spite of continuous pumping and baling, it became evident that she was a doomed vessel. With all the efforts made to save the crew, thirty-one of the ship's company and four mutineers were lost with the vessel. Very little notice, indeed, seems to have been taken of the latter by the captain, who was afterwards accused of considerable inhumanity. "Before the final catastrophe," says the surgeon of the vessel, "three of the *Bounty's* people, Coleman, Norman, and M'Intosh, were now let out of irons, and sent to work at the pumps. The others offered their assistance, and begged to be allowed a chance of saving their lives; instead of which, two additional sentinels were placed over them, with orders to shoot any who should attempt to get rid of their fetters. Seeing no prospect of escape, they betook themselves to prayer, and prepared to meet their fate, every one expecting that the ship would soon go to pieces, her rudder and part of the stern-post being already beaten away." When the ship was actually sinking, it is stated that no notice was taken of the prisoners, although Captain Edwards was entreated by young Heywood, the midshipman, to have mercy on them, when he passed over their prison to make his own escape, the ship then lying on her broadside with the larboard bow completely under water. Fortunately, the master-at-arms, either by accident, or

probably design, when slipping from the roof of "Pandora's Box" into the sea, let the keys unlocking the hand-cuffs and irons fall through the scuttle, and thus enabled them to commence their own liberation, in which they were assisted by one brave seaman, William Moulter, who said he would set them free or go to the bottom with them. He wrenched away, with great difficulty, the bars of the prison. Immediately after the ship went down, leaving nothing visible but the top-mast cross-trees.

More than half an hour elapsed before the survivors were all picked up by the boats. Amongst the drowned were Mr. Stewart, the midshipman, and three others of the *Bounty's* people, the whole of whom perished with the manacles on their hands. Thirty-one of the ship's company were lost. The four boat-loads which escaped had scarcely any provisions on board, the allowance being two wine-glasses of water to each man, and a very small quantity of bread, calculated for sixteen days. Their voyage of 1,000 miles on the open ocean, and the sufferings endured, were similar to those experienced by Bligh's party, but not so severe. After staying at Coupang for about three weeks, they left on a Dutch East Indiaman, which conveyed them to Samarang, and subsequently Batavia, whence they proceeded to Europe.

After an exhaustive court-martial had been held on the ten prisoners brought home by Captain Edwards, three of the seamen were condemned and executed; Mr. Heywood, the midshipman, the boatswain's-mate, and the steward were sentenced to death, but afterwards pardoned; four others were tried and acquitted. It will be remembered that four others were drowned at the wreck.

Twenty years had rolled away, and the mutiny of the *Bounty* was almost forgotten, when Captain Folger, of the American ship *Topaz,* reported to Sir Sydney Smith, at Valparaiso, that he had discovered the last of the survivors on Pitcairn Island. This fact was transmitted to the Admiralty, and received on May 14th, 1809, but the troublous times prevented any immediate investigation. In 1814, H.M.S. *Briton,* commanded by Sir Thomas Staines, and the *Tagus,* Captain Pipon, were cruising in the Pacific, when they fell in with the little known island of Pitcairn. He discovered not merely that it was inhabited, but afterwards, to his great astonishment, that every individual on the island spoke very good English. The little village was composed of neat huts, embowered in luxuriant plantations. "Presently they observed a few natives coming down a steep descent with their canoes on their shoulders, and in a few minutes perceived one of these little vessels dashing through a heavy surf, and paddling off towards the ships; but their astonishment was extreme when, on coming alongside, they were hailed in the English language with 'Won't you heave us a rope now?'

"The first young man that sprang with extraordinary alacrity up the side and stood before them on the deck, said, in reply to the question, 'Who are you?' that his name was Thursday October Christian, son of the late Fletcher Christian, by an Otaheitan mother; that he was the first born on the island, and that he was so called because he was brought into the world on a Thursday in October. Singularly strange as all this was to Sir Thomas Staines and Captain Pipon, this youth soon satisfied them that he was none other than the person he represented himself to be, and that he was fully acquainted with the whole history of the *Bounty;* and, in short, the island before them was the retreat

of the mutineers of that ship. Young Christian was, at this time, about twenty-four years of age, a fine tall youth, full six feet high, with dark, almost black hair, and a countenance open and extremely interesting. As he wore no clothes, except a piece of cloth round his loins, and a straw hat, ornamented with black cock's feathers, his fine figure, and well-shaped muscular limbs, were displayed to great advantage, and attracted general admiration. * * * He told them that he was married to a woman much

H.M.S. "BRITON," AT PITCAIRN ISLAND.

older than himself, one of those that had accompanied his father from Otaheite. His companion was a fine, handsome youth of seventeen or eighteen years of age, of the name of George Young, the son of Young, the midshipman." In the cabin, when invited to refreshments, one of them astonished the captains by asking the blessing with much appearance of devotion, "For what we are going to receive, the Lord make us truly thankful." The only surviving Englishman of the crew was John Adams, and when the captains landed through the surf, with no worse result than a good wetting, the old man came down to meet them. Both he and his aged wife were at first considerably alarmed at seeing the king's uniform, but was reassured when he was told that they had no intention of disturbing him. Adams said that he had no great share in the mutiny, that he was sick at the time, and was afterwards compelled to take a musket. He even

expressed his willingness to go to England, but this was strongly opposed by his daughter. "All the women burst into tears, and the young men stood motionless and absorbed in grief; but on their being assured that he should on no account be molested, it is impossible," says Pipon, "to describe the universal joy that these poor people manifested."

When Christian had arrived at the island, he found no good anchorage, so he ran the *Bounty* into a small creek against the cliff, in order to get out of her such articles as might be of use. Having stripped her, he set fire to the hull, so that afterwards she should not be seen by passing vessels, and his retreat discovered. It is pretty clear that the misguided young man was never happy after the rash and mutinous step he had taken, and he became sullen, morose, and tyrannical to his companions. He was at length shot by an Otaheitan, and in a short time only two of the mutineers were left alive.

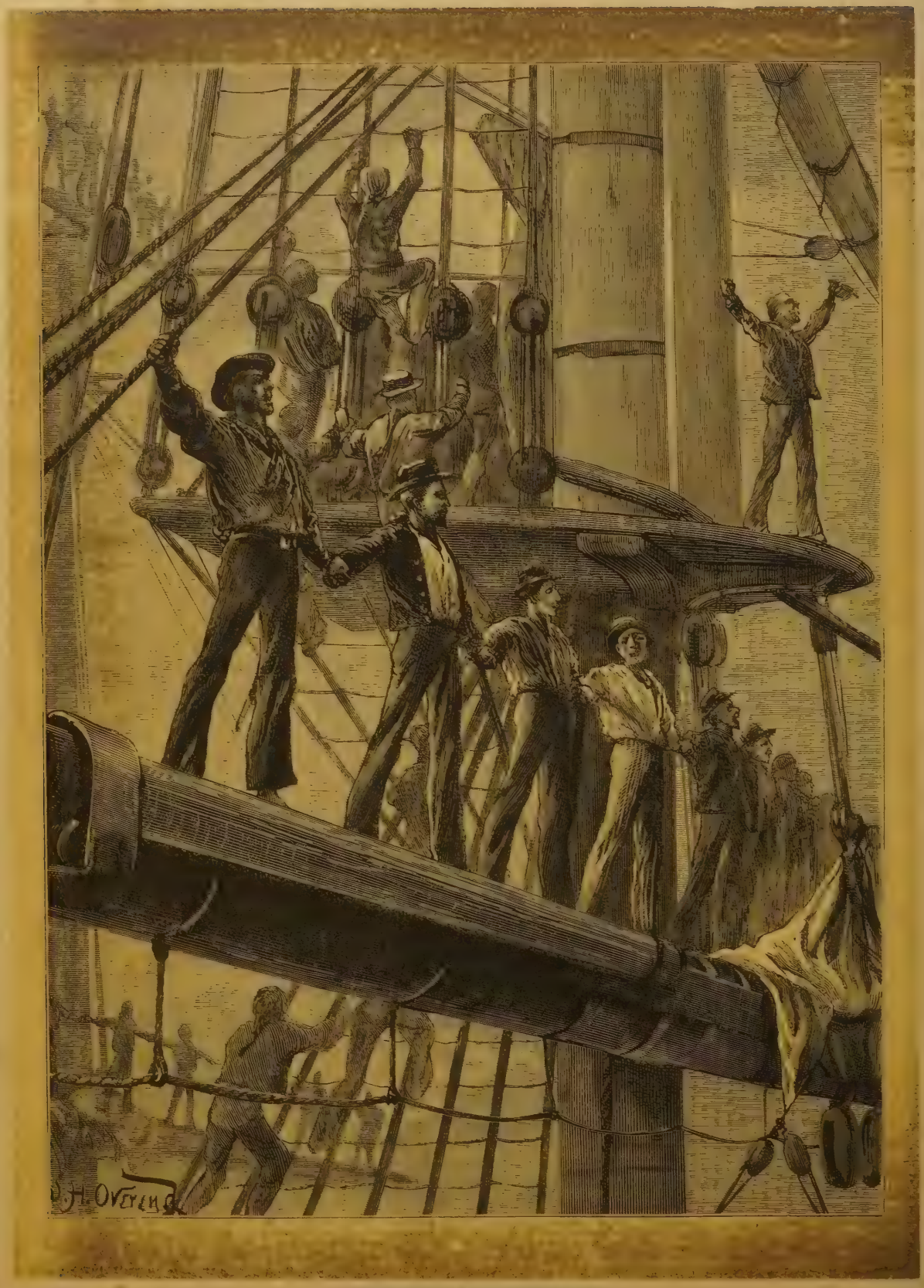
The colony at this time comprised forty-six persons, mostly grown-up young people, all of prepossessing appearance. John Adams had made up for any share he may have had in the revolt, by instructing them in religious and moral principles. The girls were modest and bashful, with bright eyes, beautifully white teeth, and every indication of health. They carried baskets of fruit over such roads and down such precipices as were scarcely passable by any creatures except goats, and over which we could scarcely scramble with the help of our hands. When Captain Beechey, in his well-known voyage of discovery on the *Blossom*, called there in 1825, he found Adams, then in his sixty-fifth year, dressed in a sailor's shirt and trousers, and with all a sailor's manners, doffing his hat and smoothing down his bald forehead whenever he was addressed by the officers of the *Blossom*. Many circumstances connected with the subsequent history of the happy little colony cannot be detailed here. Suffice it to say that it still thrives, and is one of the most model settlements of the whole world, although descended from a stock so bad. Of the nine who landed on Pitcairn's Island only two died a natural death. Of the original officers and crew of the *Bounty* more than half perished in various untimely ways, the whole burden of guilt resting on Christian and his fellow-conspirators.

The mutiny just described sinks into insignificance before that which is about to be recounted, the greatest mutiny of English history—that of the Nore. At that one point no less than 40,000 men were concerned, while the disaffection spread to many other stations, some of them far abroad. There can be little doubt that prior to 1797, the year of the event, our sailors had laboured under many grievances, while the navy was full of "pressed" men, a portion of whom were sure to retain a thorough dislike to the service, although so many fought and died bravely for their country. Some of the grievances which the navy suffered were probably the result of careless and negligent legislation, rather than of deliberate injustice, but they were none the less galling on that account. The pay of the sailor had remained unchanged from the reign of Charles II., although the prices of the necessaries and common luxuries of life had greatly risen. His pension had also remained at a stationary rate; that of the soldier had been augmented. On the score of provisions he was worse off than an ordinary pauper. He was in the hands of the purser, whose usual title at that time indicates his unpopularity: he was termed "Nipcheese." The provisions served were of the worst quality; fourteen instead of sixteen ounces went

to the navy pound. The purser of those days was taken from an inferior class of men, and often obtained his position by influence, rather than merit. He generally retired on a competency after a life of deliberate dishonesty towards the defenders of his country, who, had they received everything to which they were entitled, would not have been too well treated, and, as it was, were cheated and robbed, without scruple and without limit. The reader will recall the many naval novels, in which poor Jack's daily allowance of grog was curtailed by the purveyor's thumb being put in the pannikin: this was the least of the evils he suffered. In those war times the discipline of the service was specially rigid and severe, and most of this was doubtless necessary. Men were not readily obtained in sufficient numbers; consequently, when in harbour, leave ashore was very constantly refused, for fear of desertions. These and a variety of other grievances, real or fancied, nearly upset the equilibrium of our entire navy. It is not too much to say that not merely England's naval supremacy was for a time in the greatest jeopardy through the disaffection of the men, but that our national existence, almost—and most certainly our existence as a first-class power—was alarmingly threatened, the cause being nothing more nor less than a very general spirit of mutiny. To do the sailors justice, they sought at first to obtain fair play by all legitimate means in their power. It must be noted, also, that a large number of our best officers knew that there was very general discontent. Furthermore, it was well known on shore that numerous secret societies opposed to monarchy, and incited by the example of the French Revolution, had been established. Here, again, the Government had made a fatal mistake. Members of these societies had been convicted in numbers, and sent to sea as a punishment. These men almost naturally became ringleaders and partakers in the mutiny, which would, however, have occurred sooner or later, under any circumstances. In the case of the mutiny at Spithead, about to be recounted, the sailors exhibited an organisation and an amount of information which might have been expected from "sea-lawyers" rather than ordinary Jack Tars; while in the more serious rebellion of the Nore, the co-operation of other agents was established beyond doubt.

The first step taken by the men was perfectly legitimate, and had it been met in a proper spirit by the authorities, this history need never have been penned. At the end of February, 1797, the crews of four line-of-battle ships at Spithead addressed separate petitions to Lord Howe, Commander-in-Chief of the Channel Fleet, asking his kind interposition with the Admiralty, to obtain from them a relief of their grievances, so that they might at length be put on a similar footing to the army and militia, in respect both of their pay and of the provision they might be enabled to make for their wives and families. Lord Howe, being then in bad health, communicated the subject of their petitions to Lord Bridport and Sir Peter Parker, the port admiral, who, with a want of foresight and disregard of their country's interest which cannot be excused, returned answer that "the petitions were the work of some evil-disposed person or persons," and took no trouble to investigate the allegations contained in them. Lord Howe, therefore, did nothing; and the seamen, finding their applications for redress not only disregarded, but treated with contempt, determined to compel the authorities to give them that relief which they had before submissively asked.

In about six weeks they organised their plans with such secrecy that it was not till



everything was arranged on a working basis that the first admiral, Lord Bridport, gained any knowledge of the conspiracy going on around him. He communicated his suspicions to the Lords of the Admiralty; and they, thinking a little active service would prove the best cure for what they simply regarded as a momentary agitation, sent down orders for the Channel Fleet to put to sea. The orders arrived at Portsmouth on April 15th, and in obedience to them Lord Bridport signalled to the fleet to make the necessary preparations. As might almost have been expected, it was the signal, likewise, for the outbreak of the mutiny. Not a sailor bestirred himself; not a rope was bent; but, as if by common consent, the crews of every vessel in the squadron manned the yards and rigging, and gave three cheers. They then proceeded to take the command of each ship from the officers, and appointed delegates from each vessel to conduct negotiations with the authorities of the Admiralty. No violence nor force was used. The first-lieutenant of the *London*, ordered by Admiral Colpoys, one of the best-hated officers of the service, shot one of the mutineers, but his death was not avenged. They again forwarded their petition to the Admiralty, and its closing sentences showed their temperance, and argued strongly in favour of their cause. They desired "to convince the nation at large that they knew where to cease to ask, as well as where to begin; and that they asked nothing but what was moderate, and might be granted without detriment to the nation or injury to the service." The Admiralty authorities, seeing that with the great power in their hands they had acted peaceably, only abstaining from work, yielded all the concessions asked; and a full pardon was granted in the king's name to the fleet in general, and to the ringleaders in particular. In a word, the mutiny ended for the time being.

It was resumed on May 7th. As Parliament had delayed in passing the appropriations for the increase of pay and pensions, the crews rose *en masse* and disarmed all their officers, although still abstaining from actual violence. Lord Howe, always a popular officer with the men, and their especial idol after his great victory of June 1st, 1794, was sent down by the Cabinet with full power to ratify all the concessions which had been made, and to do his best to convince the men that the Government had no desire of evading them. He completely mollified the men, and even succeeded in exacting an expression of regret and contrition for their outbreak. He assured them that their every grievance should be considered, and a free pardon, as before, given to all concerned. The men again returned to duty. The fleet at Plymouth, which had followed that of Portsmouth into the mutiny, did the same; and thus, in a month from the first outbreak, as far as these two great fleets were concerned, all disaffection, dissatisfaction, and discontent had passed away, through the tact and judicious behaviour of Lord Howe. There can be no doubt that the tyranny of many of the officers had a vast deal to do with the outbreak. In the list of officers whom the men considered obnoxious, and that Lord Howe agreed should be removed, there were over one hundred in one fleet of sixteen ships.

Strange to say, the very same week in which the men of the Portsmouth fleet returned to their duty, acknowledging all their grievances to be removed, the fleet at the Nore arose in a violent state of mutiny, displaying very different attributes to those shown by the former. Forty thousand men, who had fought many a battle for king and country, and in steadfast reliance upon whose bravery the people rested every night in tranquillity,

confident in their patriotism and loyalty, became irritated by ungrateful neglect on the one part, and by seditious advisers on the other, and turned the guns which they had so often fired in defence of the English flag against their own countrymen and their own homes.

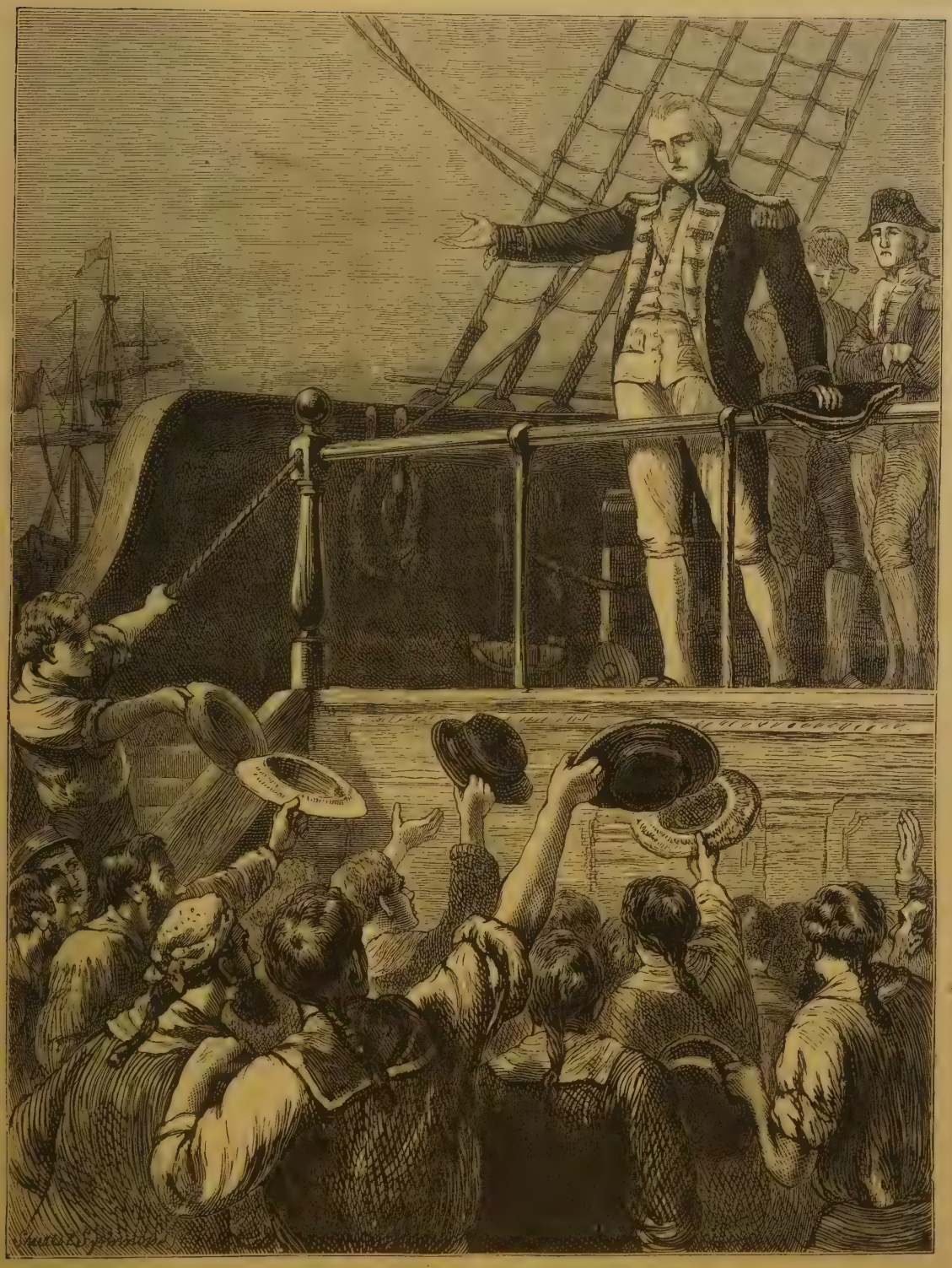
Richard Parker, the chief ringleader at the Nore, was a thoroughly bad man in every respect, and one utterly unworthy the title of a British sailor, of which, indeed, he had been more than once formally deprived. He was the son of an Exeter tradesman in a fair way of business, had received a good education, and was possessed of decided abilities. He was a remarkably bold and resolute man, or he would never have acquired the hold he had for a time over so many brave sailors. He was unmistakably

> "The leader of the band he had undone,
> Who, born for better things, had madly set
> His life upon a *cast*,"

and until overtaken by justice, he ruled with absolute sway.

Parker had, eleven years previously, entered the navy as a midshipman on board the *Culloden*, from which vessel he had been discharged for gross misconduct. A little later, he obtained, however, a similar appointment on the *Leander* frigate, and was again dismissed. We next find him passing through several ships in rotation, from which he was invariably dismissed, no captain allowing him to remain when his true character disclosed itself. It did not usually take long. At length he became mate of the *Resistance*, on which vessel, shortly after joining, he was brought to a court-martial and "broke" —*i.e.*, his commission taken away—and declared incapable of serving again as an officer. After serving a short time as a common sailor on board the *Hebe*, he was either invalided or discharged, for we find him residing in Scotland; and as he could no more keep out of trouble ashore than he could afloat, he was soon in Edinburgh gaol for debt. But men were wanted for the navy, and he was eventually sent up to the fleet as one of the quota of men required from Perth district. He received the parochial bounty of £30 allowed to each man. He joined the *Sandwich*, the flag-ship of Admiral Buckner, Commander-in-Chief at the Nore. The best authorities believe him to have been employed as an emissary of the revolutionists, as, although he had only just been discharged from gaol, he had abundance of money. His good address and general abilities, combined with the liberality and conviviality he displayed, speedily obtained him an influence among his messmates, which he used to the worst purpose. He had scarcely joined the fleet when, aided by disaffected parties ashore, he began his machinations, and speedily seduced the majority of the seamen from their duty. In some respects the men followed the example of those at Portsmouth, selecting delegates and forwarding petitions, but in other respects their conduct was disgracefully different. When mastery of the officers had been effected, Parker became, in effect, Lord High Admiral, and committed any number of excesses, even firing on those ships which had not followed the movement. Officers were flogged, and on board the flag-ship, the vessel on which Parker remained, many were half-drowned, as the following account, derived from an unimpeachable source,*

* *The Annual Register*, 1789. The account above presented is derived from that source, and from the standard works of Yonge and James.



ADMIRAL DUNCAN ADDRESSING HIS CREW.

will show. Their hammocks were fastened to their backs, with an 18-pounder bar-shot as a weight; their hands were tied together, likewise their feet. They were then made fast to a tackle suspended from a yard-arm, and hauled up almost to the block; at the word of command they were dropped suddenly in the sea, where they were allowed to remain a minute. They were again hoisted up, and the process repeated, until about every sign of life had fled. The unfortunate victims were then hoisted up by the heels; this was considerately done to get rid of the water from their stomachs. They were then put to bed in their wet hammocks.

On June 6th the mutinous fleet was joined by the *Agamemnon, Leopard, Ardent,* and *Iris* men-of-war, and the *Ranger* sloop, which vessels basely deserted from a squadron under Admiral Duncan, sent to blockade the Texel. Shortly after, a number of vessels of the line arrived at the mouth of the Thames, and still further augmented the ranks of the mutineers. By this means eleven vessels were added to the list. Duncan, gallant old salt as he was, when he found himself deserted by the greater part of his fleet, called his own ship's crew (the *Venerable,* 74) together, and addressed them in the following speech:—

"My lads,—I once more call you together with a sorrowful heart, from what I have lately seen of the dissatisfaction of the fleets: I call it dissatisfaction, for the crews have no grievances. To be deserted by my fleet, in the face of an enemy, is a disgrace which, I believe, never before happened to a British admiral, nor could I have supposed it possible. My greatest comfort under God is, that I have been supported by the officers, seamen, and marines of this ship; for which, with a heart overflowing with gratitude, I request you to accept my sincere thanks. I flatter myself much good may result from your example, by bringing these deluded people to a sense of their duty, which they owe, not only to their king and country, but to themselves.

"The British Navy has ever been the support of that liberty which has been handed down to us by our ancestors, and which I think we shall maintain to the latest posterity; and that can only be done by unanimity and obedience. This ship's company, and others who have distinguished themselves by their loyalty and good order, deserve to be, and doubtless will be, the favourites of a grateful country. They will also have, from their inward feelings, a comfort which will be lasting, and not like the bloating and false confidence of those who have swerved from their duty.

"It has often been my pride with you to look into the Texel, and see a foe which dreaded coming out to meet us; my pride is now humbled indeed! my feelings are not easily expressed! Our cup has overflowed and made us wanton. The all-wise Providence has given us this check as a warning, and I hope we shall improve by it. On Him then let us trust, where our only security may be found. I find there are many good men amongst us; for my own part, I have had full confidence of all in this ship, and once more beg to express my approbation of your conduct.

"May God, who has thus far conducted you, continue so to do; and may the British Navy, the glory and support of our country, be restored to its wonted splendour, and be not only the bulwark of Britain, but the terror of the world.

"But this can only be effected by a strict adherence to our duty and obedience; and let us pray that the Almighty God may keep us in the right way of thinking."

"God bless you all!"

At an address so unassuming and patriotic, the whole ship's crew were dissolved in tears, and one and all declared, with every expression of warmth they could use, their determination to stay by the admiral in life or death. Their example was followed by all the other ships left in the squadron, and the brave and excellent old admiral, notwithstanding the defection of so many of his ships, repaired to his station, off the coast of Holland, to watch the movements of the Dutch fleet. Here he employed a device to hide the sparseness of his fleet by employing one of his frigates, comparatively close in shore, to make signals constantly to himself and to the other vessels in the offing, many of them imaginary, and give the enemy the impression that a large squadron was outside. He had resolved, however, not to refuse battle, if the Dutch fleet should have the courage to come out and offer it.

But to return to the mutineers. The accession of the new vessels so elated Parker that he gave way to the wildest fits of extravagance. He talked of taking the whole fleet to sea, and selling it to our enemies. He tried to stop the navigation of the Thames, declaring that he would force his way up to London, and bombard the city if the Government did not accede to his terms. The alarm at these proceedings became general in the metropolis, and the funds fell lower than ever known before or since in the financial history of our country. An order was given to take up the buoys marking the channel of the Thames, while the forts were heavily armed and garrisoned, so that should Parker attempt his vainglorious threat, the fleet might be destroyed. The Government now acted with more promptness and decision than they had previously displayed. Lord Spencer, Lord Arden, and Admiral Young hastened to Sheerness, and held a board, at which Parker and the other delegates attended, but the conduct of the mutineers was so audacious that these Lords of the Admiralty returned to town without the slightest success. The principal article of conflict on the part of the seamen's delegates was the unequal distribution of prize-money, for the omission of which matter in the recent demands, they greatly upbraided their fellow-seamen at Portsmouth. Bills were immediately passed in Parliament inflicting the heaviest penalties on those who aided or encouraged the mutineers in any way, or even held intercourse with them, which speedily had the effect of damping their ardour, and by the end of the first week in June the fire which Parker had fanned into a serious conflagration, began to die out. The fleets at Portsmouth and Plymouth disowned all fellowship with them, and the example of one or two ships, such as the *Clyde*, which from the first had resisted Parker's influence, commenced to be of effect. The ringleader himself, seeing that his influence was waning, and knowing the perilous position in which he had placed himself, tried to re-open negotiations with the Admiralty, but his demands were too ridiculous to be considered; whereupon he hung Mr. Pitt and Mr. Dundas in effigy at the yard-arm of the *Sandwich*. It is a curious fact, showing that the crews were simply egged on by the ringleaders, and that there was plenty of loyalty at bottom, that on June 4th, the king's birthday, the whole fleet insisted on firing a royal salute, displaying the colours as usual, and hauling down the red flag during the ceremony. Mr. Parker, however, insisted that it should fly on the flag-ship.

On June 10th two of the ships, the *Leopard* and *Repulse*, hauled down the flag of mutiny, and sailed into the Thames; their example was soon followed by others. Parker and his cause were lost.

On the evening of June 14th this miserable affair was at an end. The crew of the *Sandwich*, Parker's own ship, brought that vessel under the guns of the fort at Sheerness, and handed him as a prisoner to the authorities. Sixteen days afterwards he was hanged. His wife presented a petition to the queen in favour of her wretched husband, and is stated to have offered a thousand guineas if his life could be spared. But he, of all men who were ever hanged, deserved his fate, for he had placed the very kingdom itself in peril. Other executions took place, but very few, considering the heinousness of the crime committed. Still, the Government knew that the men had been in the larger proportion of cases more sinned against than sinning; and when later, Duncan's victory over the Dutch fleet provided an occasion, an amnesty was published, and many who had been confined in prison, some of them under sentence of death, were released. *En passant*, it may be remarked that three marines were shot at Plymouth on July 6th of the same year, for endeavouring to excite a mutiny in the corps, while another was sentenced to receive a *thousand* lashes.

The mutinous spirit evinced at Portsmouth, Plymouth, and the Nore spread even to foreign stations. Had it not been for Duncan's manly and sensible appeal to his crew, where there were some disaffected spirits, our naval supremacy might have been seriously compromised as regards the Dutch. On board the Mediterranean Fleet, then lying off the coast of Portugal, the mutineers had for a time their own way. The admiral commanding, Lord St. Vincent, was, however, hardly the man to be daunted by any number of evil-disposed fellows. He had only just before added to his laurels by another victory over the enemies of his country. The ringleaders on board the flagship *St. George* were immediately seized, brought to trial, and hanged the next day, although it was Sunday, a most unusual time for an execution. Still further to increase the force of the example, he departed from the usual custom of drawing men from different ships to assist at the execution, and ordered that none but the crew of the *St. George* itself should touch a rope. The brave old admiral, by his energy and promptitude, soon quieted every symptom of disaffection.

The last of the mutinies broke out at the Cape of Good Hope, on October 9th of the same year, when a band of mutineers seized the flagship of Admiral Pringle, and appointed delegates in the same way as their shipmates at home, showing plainly how extended was the discontent in the service, and how complete was the organisation of the insurgents. Lord Macartney, who commanded at the Cape, was, however, master of the occasion. Of the admiral the less said the better, as he showed the white feather, and was completely non-plussed. Macartney manned the batteries with all the troops available, and ordered red-hot shot to be prepared. He then informed the fleet that if the red flag was not at once withdrawn, and a white one hoisted, he would open fire and blow up every ship the crew of which held out. The admiral at the same time informed the delegates that all the concessions they required had already been granted to the fleets at home, and of course to them. In a quarter of an hour the red flag was hauled down, and a free pardon

extended to the bulk of the offenders. The ringleaders were, however, hanged, and a few others flogged. The mutinous spirit never re-asserted itself.

Since that time, thank God! no British fleet has mutinied; and as at the present day the sailors of the Royal Navy are better fed, paid, and cared for than they ever were before, there is no fear of any recurrence of disaffection. One need only look at the

LORD ST. VINCENT.

Jack Tar of the service, and compare him with the appearance of almost any sailor of any merchant marine, to be convinced that his grievances to-day are of the lightest order. The wrongs experienced by sailors in a part of the merchant service have been recently remedied in part; but it is satisfactory to be able to add that there is every probability of their condition being greatly improved in the future. On this point, however, we shall have more to say in a later chapter.

CHAPTER XV.

The History of Ships and Shipping Interests.

The First Attempts to Float—Hollowed Logs and Rafts—The Ark and its Dimensions—Skin Floats and Basket-boats—Maritime Commerce of Antiquity—Phœnician Enterprise—Did they Round the Cape?—The Ships of Tyre—Carthage—Hanno's Voyage to the West Coast of Africa—Egyptian Galleys—The Great Ships of the Ptolemies—Hiero's Floating Palace—The Romans—Their Repugnance to Seafaring Pursuits—Sea Battles with the Carthaginians—Cicero's Opinions on Commerce—Constantinople and its Commerce—Venice—Britain—The First Invasion under Julius Cæsar—Benefits Accruing—The Danish Pirates—The London of the Period—The Father of the British Navy—Alfred and his Victories—Canute's Fleet—The Norman Invasion—The Crusades—Richard Cœur de Lion's Fleet—The Cinque Ports and their Privileges—Foundation of a Maritime Code—Letters of Marque—Opening of the Coal Trade—Chaucer's Description of the Sailors of his Time—A Glorious Period—The Victories at Harfleur—Henry V.'s Fleet of 1,500 Vessels—The Channel Marauders—The King-Maker Pirate—Sir Andrew Wood's Victory—Action with Scotch Pirates—The *Great Michael* and the *Great Harry*—Queen Elizabeth's Astuteness—The Nation never so well Provided—"The Most Fortunate and Invincible Armada"—Its Size and Strength—Elizabeth's Appeal to the Country—A Noble Response—Effingham's Appointment—The Armada's First Disaster—Refitted, and Resails from Corunna—Chased in the Rear—A Series of *Contretemps*—English Volunteer Ships in Numbers—The Fire-ships at Calais—The Final Action—Flight of the Armada—Fate of Shipwrecked Spanish in Ireland—Total Loss to Spain—Rejoicings and Thanksgivings in England.

It will not now be out of place to take a rapid survey of the progress of naval architecture, from log and coracle to wooden walls and ironclads, noting rapidly the progressive steps which led to the present epoch.

It is only from the Scriptures, and from fragmentary allusions in the writings of profane historians and poets, that we can derive any knowledge of the vessels employed by the ancients. Doubtless our first parents noticed branches of trees or fragments of wood floating upon the surface of that "river" which "went out of Eden to water the garden;" and from this to the use of logs singly, or combined in rafts, or hollowed into canoes, would be an easy transition. The first boat was probably a mere toy model; and, likely enough, great was the surprise when it was discovered that its sides, though thin, would support a considerable weight in the water. The first specimen of naval architecture of which we have any description is unquestionably the ark, built by Noah. If the cubit be taken as eighteen inches, she was 450 feet long, 75 in breadth, and 45 in depth, whilst her tonnage, according to the present system of admeasurement, would be about 15,000 tons. It is more than probable that this huge vessel was, after all, little more than a raft, or barge, with a stupenduous house reared over it, for it was constructed merely for the purpose of floating, and needed no means of propulsion. She may have been, comparatively speaking, slightly built in her lofty upper works, her carrying capacity being thereby largely increased. Soon after the Flood, if not, indeed, before it, other means of flotation must have suggested themselves, such as the inflated skins of animals; these may be seen on the ancient monuments of Assyria, discovered by Layard, where there are many representations of people crossing rivers by this means. Next came wicker-work baskets of rushes or reeds, smeared with mud or pitch, similar to the ark in which Moses was found. Mr. Layard found such boats in use on the Tigris; they were constructed of twisted reeds made water-tight by bitumen, and were often large enough for four or five persons. Pliny says, in his time, "*Even now* in British waters, vessels of vine-twigs sewn round with leather are used." The words in italics might be used were Pliny writing to-day. Basket-work coracles, covered with leather or prepared flannel, are still found in a few parts

of Wales, where they are used for fording streams, or for fishing. Wooden canoes or boats, whether hollowed from one log or constructed of many parts, came next. The paintings and sculptures of Upper and Lower Egypt show regularly formed boats, made of sawn planks of timber, carrying a number of rowers, and having sails. The Egyptians were averse to seafaring pursuits, having extensive overland commerce with their neighbours.

The Phœnicians were, past all cavil, the most distinguished navigators of the ancient world, their capital, Tyre, being for centuries the centre of commerce, the "mart of nations." Strange to say, this country, whose inhabitants were the rulers of the sea in those times, was a mere strip of land, whose average breadth never exceeded twelve miles, while its length was only 225 miles from Aradus in the north to Joppa in the south. Forced by the unproductiveness of the territory, and blessed with one or two excellent harbours, and an abundant supply of wood from the mountains of Lebanon, the Phœnicians soon possessed a numerous fleet, which not only monopolised the trade of the Mediterranean, but navigated Solomon's fleets to the Persian Gulf and Indian Ocean, establishing colonies wherever they went. Herodotus states that a Phœnician fleet, which was fitted out by Necho, King of Egypt, even circumnavigated Africa, and gives details which seem to place it within the category of the very greatest voyages. Starting from the Red Sea, they are stated to have passed Ophir, generally supposed to mean part of the east coast of Africa, to have rounded the continent, and, entering the Mediterranean by the Pillars of Hercules, our old friends the Rocks of Gibraltar and Ceuta, to have reached Egypt in the third year of their voyage. Solomon, too, dispatched a fleet of ships from the Red Sea to fetch gold from Ophir. Diodorus gives at great length an account of the fleet said to be built by this people for the great Queen Semiramis, with which she invaded India. Semiramis was long believed by many to be a mythical personage; but Sir Henry Rawlinson's interpretations of the Assyrian inscriptions have placed the existence of this queen beyond all doubt. In the Assyrian hall of the British Museum are two statues of the god Nebo, each of which bears a cuneiform inscription saying that they were made for Queen Semiramis by a sculptor of Nineveh. The commerce of Phœnicia must have been at its height when Nebuchadnezzar made his attack on Tyre. Ezekiel gives a description of her power about the year B.C. 588, when ruin was hovering around her. "Tyre," says the prophet, "was a merchant of the people for many isles." He states that her ship-boards were made of fir-trees of Senir; her masts of cedars from Lebanon; her oars of the oaks of Bashan; and the benches of her galleys of ivory, brought out of the isles of Chittim.

To the Tyrians also is due the colonisation of other countries, which, following the example of the mother-country, soon rivalled her in wealth and enterprise. The principal of these was Carthage, which in its turn founded colonies of her own, one of the first of which was Gades (Cadiz). From that port Hanno made his celebrated voyage to the west coast of Africa, starting with sixty ships or galleys, of fifty oars each. He is said to have founded six trading-posts or colonies. About the same time Hamilco went on a voyage of discovery to the north-western shores of Europe, where, according to a poem of Festus Avienus,* he formed settlements in Britain and

* The curious in such matters will find this poem translated by Heeren in his work entitled "Asiatic Nations."

Ireland, and found tin and lead, and people who used boats of skin or leather. Aristotle tells us that the Carthaginians were the first to increase the size of their galleys from three to four banks of oars.

Under the dynasty of the Ptolemies the maritime commerce of Egypt rapidly improved. The first of these kings caused the erection of the celebrated Pharos or lighthouse at Alexandria, in the upper storey of which were windows looking seaward, and inside which fires were lighted by night to guide mariners to the harbour. Upon its front was inscribed, "King Ptolemy to God the Saviour, for the benefit of sailors." His successor, Ptolemy Philadelphus, attempted to cut a canal a hundred cubits in width between Arsinoe, on the Red Sea, not far from Suez, to the eastern branch of the Nile. Enormous vessels were constructed at this time and during the succeeding reigns. Ptolemy, the son of Lagos, is said to have owned five hundred galleys and two thousand smaller vessels. Lucian speaks of a vessel that he saw in Egypt that was one hundred and twenty cubits long. Another, constructed by Ptolemy Philopator, is described by Calixenus, an Alexandrian historian, as two hundred and eighty cubits, say 420 feet, in length. She is said to have had four rudders, two heads, and two sterns, and to have been manned by 4,000 sailors (meaning principally oarsmen) and 3,000 fighting-men. Calixenus also describes another built during the dynasty of the Ptolemies, called the *Thalamegus*, or "carrier of the bed-chamber." This leviathan was 300 feet in length, and fitted up with every conceivable kind of luxury and magnificence—with colonnades, marble staircases, and gardens; from all which it is easy to infer that she was not intended for sea-going purposes, but was probably an immense barge, forming a kind of summer palace, moored on the Nile. Plutarch in speaking of her says that she was a mere matter of curiosity, for she differed very little from an immovable building, and was calculated mainly for show, as she could not be put in motion without great difficulty and danger.

But the most prodigious vessel on the records of the ancients was built by order of Hiero, the second Tyrant of Syracuse, under the superintendence of Archimedes, about 230 years before Christ, the description of which would fill a small volume. Athenæus has left a description of this vast floating fabric. There was, he states, as much timber employed in her as would have served for the construction of fifty galleys. It had all the varieties of apartments and conveniences necessary to a palace—such as banqueting-rooms, baths, a library, a temple of Venus, gardens, fish-ponds, mills, and a spacious gymnasium. The inlaying of the floors of the middle apartment represented in various colours the stories of Homer's "Iliad;" there were everywhere the most beautiful paintings, and every embellishment and ornament that art could furnish were bestowed on the ceilings, windows, and every part. The inside of the temple was inlaid with cypress-wood, the statues were of ivory, and the floor was studded with precious stones. This vessel had twenty benches of oars, and was encompassed by an iron rampart or battery; it had also eight towers with walls and bulwarks, which were furnished with machines of war, one of which was capable of throwing a stone of 300 pounds weight, or a dart of twelve cubits long, to the distance of half a mile. To launch her, Archimedes invented a screw of great power. She had four wooden and eight iron anchors; her mainmast,

composed of a single tree, was procured after much trouble from distant inland mountains. Hiero finding that he had no harbours in Sicily capable of containing her, and learning that there was famine in Egypt, sent her loaded with corn to Alexandria. She bore an inscription of which the following is part:—"Hiero, the son of Hierocles, the Dorian, who wields the sceptre of Sicily, sends this vessel bearing in her the fruits of the earth. Do thou, O Neptune, preserve in safety this ship over the blue waves."

FLEET OF ROMAN GALLEYS.

Among the Grecian states Corinth stood high in naval matters. Her people were expert ship-builders, and claimed the invention of the trireme, or galley with three tiers of oars. Athens, with its three ports, also carried on for a long period a large trade with Egypt, Palestine, and the countries bordering the Black Sea. The Romans had little inclination at first for seamanship, but were forced into it by their rivals of Carthage. It was as late as B.C. 261 before they determined to build a war-fleet, and had not a Carthaginian galley, grounded on the coast of Italy, been seized by them, they would not have understood the proper construction of one. Previously they had nothing much above large boats rudely built of planks. The noble Romans affected to despise commerce at this period, and trusted to the Greek and other traders to supply their wants. Quintus Claudius introduced a law, which passed, that no senator or father of one should

own a vessel of a greater capacity than just sufficient to carry the produce of their own lands to market. Hear the enlightened Cicero on the subject of commerce. He observes that, "*Trade is mean if it has only a small profit for its object;* but it is otherwise if it has large dealings, bringing many sorts of merchandise from foreign parts, and distributing them to the public without deceit; and if after a reasonable profit such merchants are contented with the riches they have acquired, and purchasing land with them retire into the country, and apply themselves to agriculture, I cannot perceive wherein is the dishonour of that function." Mariners were not esteemed by the Romans until after the great battle of Actium, which threw the monopoly of the lucrative Indian trade into their hands. Claudius, A.D. 41, deepened the Tiber, and built the port of Ostia; and about fifty years later Trajan constructed the ports of Civita Vecchia and Ancona, where commerce flourished. The Roman fleets were often a source of trouble to them. Carausius, who was really a Dutch soldier of fortune, about the year 280, seized upon the fleet he commanded, and crossed from Gessoriacum (Boulogne) to Britain, where he proclaimed himself emperor. He held the reins of government for seven years, and was at length murdered by his lieutenant. He was really the first to create a British manned fleet. In the reign of Diocletian, the Veneti, on the coast of Gaul, threw off the Roman yoke, and claimed tribute from all who appeared in their seas. The same emperor founded Constantinople, erected later, under Constantine, into the seat of government. This city seemed to be destined by nature as a great commercial centre; caravans placed it in direct communication with the East, and it was really the entrepôt of the world till its capture by the Venetians, in 1204. That independent republic had been then in a flourishing condition for over two hundred years, and for more than as many after, its people were the greatest traders of the world. It was at Venice in 1202 that some of the leading pilgrims assembled to negotiate for a fleet to be used in the fourth crusade. The crusaders agreed to pay the Venetians before sailing eighty-four thousand marks of silver, and to share with them all the booty taken by land or sea. The republic undertook to supply flat-bottomed vessels enough to convey four thousand five hundred knights, and twenty thousand soldiers, provisions for nine months, and a fleet of galleys.

"Surrounded by the silver streak," our hardy forefathers often crossed to Ireland and France, prior to the first invasion of Britain by Julius Cæsar, B.C. 55, when he sailed from Boulogne with eighty vessels and 8,000 men, and with eighteen transports to carry 800 horses for the cavalry. In the second invasion he employed a fleet of 600 boats and twenty-five war-galleys, having with him five legions of infantry and 2,000 cavalry, a formidable army for the poor islanders to contend against. But their intercourse with the Romans speedily brought about commercial relations of importance. The pearl fisheries were then most profitable, while the "native" oyster was greatly esteemed by the Roman epicures, of whom Juvenal speaks in his fourth satire. He says they

> "Could at one bite the oyster's taste decide,
> And say if at Circean rocks, or in
> The Lucrine Lake, or on the coast of Richborough
> In Britain, they were bred."

British oysters were exported to Rome, as American oysters are now-a-days to England Martial also mentions another trade in one of his epigrams, that of basket-making—

"Work of barbaric art, a basket, I
From painted Britain came; but the Roman city
Now calls the painted Briton's art their own."

The smaller description of boats, other than galleys, employed by the Romans for transporting their troops and supplies, were the *kiulæ*, called by the Saxons *ceol* or *ciol*, which name has come down to us in the form of *keel*, and is still applied to a description of barge used in the north of England. Thus

"Weel may the keel row,"

says the song, and on the "coaly Tyne," a small barge carrying twenty-one tons four hundredweight is said to carry a "keel" of coals. The Romans must also have possessed large transport vessels, for within seventy or eighty years after they had gained a secure footing in this country, they received a reinforcement of 5,000 men in seventeen ships, or about 300 men, besides stores, to each vessel.

Bede places the final departure of the Romans from Britain in A.D. 409, or just before the siege of Rome by Attila. Our ancestors were now rather worse off than before, for they were left a prey to the Vikings—those bold, hardy, unscrupulous Scandinavian seamen of the north, who began to make piratical visits for the sake of plunder to the coasts of Scotland and England. They found their way to the Mediterranean, and were known and feared in every port from Iceland to Constantinople. Their galleys were propelled mainly by means of oars, but they had also small square sails to get help from a stern wind, and as they often sailed straight across the stormy northern seas, it is probable that they had made considerable progress in the rigging and handling of their ships. A plank-built boat was discovered a few years since in Denmark, which the antiquaries assign to the fifth century. It is a row-boat, measuring seventy-seven feet from stem to stern, and proportionately broad in the middle. The construction shows that there was an abundance of material and skilled labour. It is alike at bow and stern, and the thirty rowlocks are reversible, so as to permit the boat to be navigated with either end forward. The vessel is built of heavy planks overlapping each other from the gunwale to the keel, and cut thick at the point of juncture, so that they may be mortised into the cross-beams and gunwale, instead of being merely nailed. Very similar boats, light, swift, and strong, are still used in the Shetlands and Norway.

Little is known of the state of England from the departure of the Romans to the eighth century. The doubtful and traditionary landing of Hengist and Horsa with 1,500 men, "in three long ships," is hardly worth discussing here. The Venerable Bede, who wrote about A.D. 750, speaks of London as "the mart of many nations, resorting to it by sea and land;" and he continues that "King Ethelbert built the church of St. Paul in the city of London, where he and his successors should have their episcopal see." But the history of this period generally is in a hopeless fog. Still we know that London was now a thriving port. Cæsar, in his "Commentaries," distinctly states that his reason

for attempting the conquest of England was on account of the vast supplies which his Gaulish enemies received from us, in the way of trade. The exports were principally cattle, hides, corn, dogs, and *slaves*, the latter an important item. Strabo observes that "our internal parts at that time were on a level with the African slave coasts." "Britons never shall be slaves" could not therefore have been said in those days. London, long prior to the invasion of England by the Romans, was an existing city, and vessels paid dues at Billingsgate long before the establishment of any custom-house. Pennant tells us, in his famous work on London, "As early as 979, all the reign of Ethelred, a small vessel was to pay *ad Bilynggesgate* one halfpenny as a toll; a greater, bearing sails, one penny; a keel or hulk (*ceol vel hulcus*), fourpence; a ship laden with wood, one piece for toll; and a boat with fish, one halfpenny; or a larger, one penny. We had even now trade with France for its wines, for mention is made of ships from Rouen, who came here and landed them, and freed them from toll—*i.e.*, paid their duties. What they amounted to I cannot learn."

The Danes, having once a foot-hold, were never thoroughly expelled till the Norman conquest, and as a maritime race excelled all the nations of the north of Europe. They had two principal classes of vessels, the *Drakers* and *Holkers*, the former named from carrying a dragon on the bows, and bearing the Danish flag of the raven. The holker was at first a small boat, hollowed out of the trunk of a tree, but the word "hulk," evidently derived from it, was used afterwards for vessels of larger dimensions. They had also another vessel called a *Snekkar* (serpent), strangely so named, for it was rather a short, stumpy kind of boat, not unlike the Dutch galliots of the sixteenth and seventeenth centuries. Their piratical expeditions soon increased, and Wales and the island of Anglesey were frequently pillaged by them, while in Ireland they possessed the ports of Dublin, Waterford, and Cork, a Danish king reigning in the two first cities. But a king was to arise who would change all this—Alfred the Great and Good, the "Father of the British Navy."

On the accession of Alfred the Great to the throne, he found England so over-run by the Danes, that he had, as every school-boy knows, to conceal himself with a few faithful followers in the forests. In his retirement he busied himself in devising schemes for ridding his country of the pirate marauders; and without much deliberation he saw that he must first have a maritime force of his own, and meet the enemies of England on the sea, which they considered their own especial element. He set himself busily to study the models of the Danish ships, and, aided by his hardy followers, stirred up a spirit of maritime ambition, which had not existed to any great extent before. At the end of four years of unremitting labour in the prosecution of his schemes, he possessed the nucleus of a fleet in six galleys, which were double the length of any possessed by his adversaries, and which carried sixty oars, and possessed ample space for the fighting men on board. With this fleet he put to sea, taking the command in person, and routed a marauding expedition of the Danes, then about to make a descent on the coast. The force was larger than his own; but he succeeded in capturing one and in driving off the rest. In the course of the next year or two he captured or sunk eighteen of the enemy's galleys, and they found at last that they could not have it all their own way on the sea. About this

THE *CHALLENGER* MADE FAST TO ST. PAUL'S ROCKS (SOUTH ATLANTIC).

time the cares of government occupied necessarily much of his time: his astute policy was to win over a number of the more friendly Danes to his cause, by giving them grants of land, and obliging them in return to assist in driving off aggressors. He was nearly the first native of England who made any efforts to extend the study of geography. According to the Saxon chronicler, Florence of Worcester, A.D. 897, he consulted Ohther, a learned Norwegian, and other authorities, from whom he obtained much information respecting the northern seas. Ohther had not only coasted along the shores of Norway,

APPROACH OF THE DANISH FLEET.

but had rounded the North Cape—it was a feat in those days, gentle reader, but now Cook's tourists do it—and had reached the bay in which Archangel is situated. The ancient geographer gave Alfred vivid descriptions of the gigantic whales, and of the innumerable seals he had observed, not forgetting the terrible mäelstrom, the dangers of which he did not under-rate, and which it was generally believed in those days was caused by a horribly vicious old sea-dragon, who sucked the vessels under. He compared the natives to the Scythians of old, and was rather severe on them, as they brewed no ale, the poor drinking honey-mead in its stead, and the rich a liquor distilled from goats' milk. Alfred not merely sent vessels to the north on voyages of discovery, but opened communication with the Mediterranean, his galleys penetrating to the extreme east of the Levant whereby he was enabled to carry on a direct trade with India. William of

Malmesbury mentions the silks, shawls, incense, spices, and aromatic gums which Alfred received from the Malabar coast in return for presents sent to the Nestorian Christians. Alfred constantly and steadily encouraged the science of navigation, and certainly earned the right of the proud title he has borne since of "Father of the British Navy."

Time passes and we come to Canute. On his accession to the throne as the son of a Danish conqueror, he practically put an end to the incursions and attacks of the northern pirates. The influence of his name was so great that he found it unnecessary to maintain more than forty ships at sea, and the number was subsequently reduced. So far from entertaining any fear of revolt from the English, or of any raid on his shores, he made frequent voyages to the Continent as well as to the north. He once proceeded as far as Rome, where he met the Emperor Conrad II., from whom he obtained for all his subjects, whether merchants or pilgrims, complete exemption from the heavy tolls usually exacted on their former visits to that city. Canute was a cosmopolitan. By his conquest of Norway, not merely did he represent the English whom he had subjugated, and who had become attached to him, but the Danes, their constant and inveterate foes and rivals. He thus united under one sovereignty the principal maritime nations of the north.

And still the writer exerts the privilege conceded to all who wield the pen, of passing quickly over the pages of history. "The stories," says a writer* who made maritime subjects a peculiar study, "as to the number of vessels under the order of the Conqueror on his memorable expedition are very conflicting. Some writers have asserted that the total number amounted to no less than 3,000, of which six or seven hundred were of a superior order, the remainder consisting of boats temporarily built, and of the most fragile description. Others place the whole fleet at not more than 800 vessels of all sizes, and this number is more likely to be nearest the truth. There are now no means of ascertaining their size, but their form may be conjectured from the representation of these vessels on the rolls of the famous Bayeux tapestry. It is said that when William meditated his descent on England he ordered 'large ships' to be constructed for that purpose at his seaports, collecting, wherever these could be found, smaller vessels or boats, to accompany them. But even the largest must have been of little value, as the whole fleet were by his orders burned and destroyed, as soon as he landed with his army, so as to cut off all retreat, and to save the expense of their maintenance." This would indicate that the sailors had to fight ashore, and may possibly have been intended to spur on his army to victory. Freeman states, in his "History of the Norman Conquest," that he finds the largest number of ships in the Conqueror's expedition, as compiled from the most reliable authorities, was 3,000, but some accounts put it as low as 693. Most of the ships were presents from the prelates or great barons. William FitzOsborn gave 60, the Count de Mortaine, 120; the Bishop of Bayeux, 100; and the finest of all, that in which William himself embarked, was presented to him by his own duchess, Matilda, and named the *Mora*. Norman writers of the time state that the vessels were not much to boast of, as they were all collected between the beginning of January and the end of August, 1066.

* (The late) W. S. Lindsay, M.P., &c., "The History of Merchant Shipping."

Lindsay, who thoroughly investigated the subject, says that "The Norman merchant vessels or transports were in length about three times their breadth, and were sometimes propelled by oars, but generally by sails; their galleys appear to have been of two sorts—the larger, occasionally called galleons, carrying in some instances sixty men, well armed with iron armour, besides their oars. The smaller galleys, which are not specially described, doubtless resembled ships' launches in size, but of a form enabling them to be propelled at a considerable rate of speed." Boats covered with leather were even employed on the perilous Channel voyage.

The Conqueror soon added to the security of the country by the establishment of the Cinque Ports, which, as their title denotes, were at first five, but were afterwards increased in number so as to include the following seaports:—Dover, Sandwich, Hythe, and Romsey, in Kent; and Rye, Winchelsea, Hastings, and Seaford, in Sussex. On their first establishment they were to provide fifty-two ships, with twenty-four men on each, for fifteen days each year, in case of emergency. In return they had many privileges, a part of which are enjoyed by them to-day. Their freemen were styled barons; each of the ports returned two members of Parliament. An officer was appointed over them, who was "Lord Warden of the Cinque Ports," and also Constable of Dover Castle.

"For more than a hundred years after the Conquest," says the writer just quoted, "England's ships had rarely ventured beyond the Bay of Biscay on the one hand, and the entrance to the Baltic on the other; and there is no special record of long voyages by English ships until the time of the Crusades; which, whatever they might have done for the cause of the Cross, undoubtedly gave the first impetus to the shipping of the country. The number of rich and powerful princes and nobles who embarked their fortunes in these extraordinary expeditions offered the chance of lucrative employment to any nation which could supply the requisite amount of tonnage, and English shipowners very naturally made great exertions to reap a share of the gains." One of the first English noblemen who fitted out an expedition to the Holy Land was the Earl of Essex; and twelve years afterwards, Richard Cœur de Lion, on ascending the throne, made vast levies on the people for the same object, joining Philip II. and other princes for the purpose of raising the Cross above the Crescent. Towards the close of 1189 two fleets had been collected, one at Dover, to convey Richard and his followers (among whom were the Archbishop of Canterbury, the Bishop of Salisbury, and the Lord Chief Justice of England) across the Channel, and a second and still larger fleet at Dartmouth, composed of numbers of vessels from Aquitaine, Brittany, Normandy, and Poitou, for the conveyance of the great bulk of the Crusaders, to join Richard at Marseilles, whither he had gone overland with the French king and his other allies. The Dartmouth fleet, under the command of Richard de Camville and Robert de Sabloil, set sail about the end of April, 1190. It had a disastrous voyage, but at length reached Lisbon, where the Crusaders behaved so badly, and committed so many outrages, that 700 were locked up. After some delay, they sailed up the Mediterranean, reaching Marseilles, where they had to stop some time to repair their unseaworthy ships, and then followed the king to the Straits of

Messina, where the fleets combined. It was not till seven months later that the fleet got under weigh for the Holy Land. It numbered 100 ships of larger kind, and fourteen smaller vessels called "busses." Each of the former carried, besides her crew of fifteen sailors, forty soldiers, forty horses, and provisions for a twelvemonth. Vinisauf, who makes the fleet much larger, mentions that it proceeded in the following order:—three large ships formed the van; the second line consisted of thirteen vessels, the lines expanding to the seventh, which consisted of sixty vessels, and immediately preceded the king and his ships. On their way they fell in with a very large ship belonging to the Saracens, manned by 1,500 men, and after a desperate engagement took her. Richard ordered that all but 200 of those not killed in the action should be thrown overboard, and thus 1,300 infidels were sacrificed at one blow. Off Etna, Sicily, they experienced a terrific gale, and the crew got "sea-sick and frightened;"

SHIPS OF WILLIAM THE CONQUEROR. (*From the Bayeux Tapestry.*)

and off the island of Cyprus they were assailed by another storm, in which three ships were lost, and the Vice-Chancellor of England was drowned, his body being washed ashore with the Great Seal of England hanging round his neck. Richard did not return to England till after the capture of Acre, and the truce with Saladin; he landed at Sandwich, as nearly as may be, four years from the date of his start. As this is neither a history of England, nor of the Crusades, excepting only as either are connected with the sea, we must pass on to a subject of some importance, which was the direct result of experience gained at this period.

The foundation of a maritime code, by an ordinance of Richard Cœur de Lion, a most important step in the history of merchant shipping, was due to the knowledge acquired by English pilgrims, traders, and seamen at the time of the Crusades. The first code was founded on a similar set of rules then existing in France, known as the *Rôles d'Oleron*, and some of the articles show how loose had been the conditions of the sailor's life previously. The first article gave a master power to pledge the tackle of a ship, if in want of provisions for the crew, but forbad the sale of the hull without the owner's permission. The captain's position, as lord paramount on board, was defined; no one, not even part-owners or super-cargoes, must interfere; he was expected to understand thoroughly the art of navigation. The second article declared that if a vessel was held in port through failure of wind or stress of weather, the ship's company should be guided

CRUSADERS AND SARACENS.

as to the best course to adopt by the opinion of the majority. Two succeeding articles related to wrecks and salvage. The fifth article provided that no sailor in port should leave the vessel without the master's consent; if he did so, and any harm resulted to the ship or cargo, he should be punished with a year's imprisonment, on bread and water. He might also be flogged. If he deserted altogether and was retaken, he might be branded on the face with a red-hot iron, although allowance was made for such as ran away from their ships through ill-usage. Sailors could also be compensated for unjust discharge without cause. Succeeding clauses refer to the moral conduct of the sailor, forbidding drunkenness, fighting, &c. Article 12 provided that if any mariner should give the lie to another at a table where there was wine and bread, he should be fined four *deniers;* and the master himself offending in the same way should be liable to a double fine. If any sailor should impudently contradict the mate, he might be fined eight *deniers;* and if the master struck him with his fist or open hand he was required to bear the stroke, but if struck more than once he was entitled to defend himself. If the sailor committed the first assault he was to be fined 100 *sous,* or else his hand was to be chopped off. The master was required by another rule not to give his crew cause for mutiny, nor call them names, nor wrong them, nor "keep anything from them that is theirs, but to use them well, and pay them honestly what is their due." Another clause provided that the sailor might always have the option of going on shares or wages, and the master was to put the matter fairly before them. The 17th clause related to food. The hardy sailors of Brittany were to have only one meal a day from the kitchen, while the lucky ones of Normandy were to have two. When the ship arrived at a wine country the master was bound to provide the crew with wine. Sailors were elsewhere forbidden to take "royal" fish, such as the sturgeon, salmon, turbot, and sea-barbel, or to take on their own account fish which yield oil. These are a part only of the clauses; many others referring to matters connected with rigging, masts, anchorages, pilotage, and other technical points. In bad pilotage the navigator who brought mishap on the ship was liable to lose his head. The general tenor of the first code is excellent, and the rules were laid down with an evident spirit of fairness alike to the owner and sailor.

The subject of "Letters of Marque" might occupy an entire volume, and will recur again in these pages. They were in reality nothing more than privileges granted for purposes of retaliation—legalised piracy. They were first issued by Edward I., and the very first related to an outrage committed by Portuguese on an English subject. A merchant of Bayonne, at the time a port belonging to England, in Gascony, had shipped a cargo of fruit from Malaga, which, on its voyage along the coast of Portugal, was seized and carried into Lisbon by an armed cruiser belonging to that country, then at peace with England. The King of Portugal, who had received one-tenth part of the cargo, declined to restore the ship or lading, whereupon the owner and his heirs received a licence, to remain in force five years, to seize the property of the Portuguese, and especially that of the inhabitants of Lisbon, to the extent of the loss sustained, the expenses of recovery being allowed. How far the merchant of Bayonne recouped himself, history sayeth not.

A little later a most important mercantile trade came into existence—that in coal. From archæological remains and discoveries it is certain that the Romans excavated coal

during their reign on this island; but it was not till the reign of Edward III. that the first opening of the great Newcastle coal-fields took place, although as early as 1253 there was a lane at the back of Newgate called "Sea-coal Lane." As in many other instances, even in our own days, the value of the discovery seems to have been more appreciated by foreigners than by the people of this country, and for a considerable time after it had been found, the combustion of coal was considered to be so unhealthy that a royal edict forbad its use in the city of London, while the queen resided there, in case it might prove "pernicious to her health." At the same time, while England laid her veto on the use of that very article which has since made her, or helped to make her, the most famous commercial nation of the world, France sent her ships laden with corn to Newcastle, carrying back coal in return, her merchants being the first to supply this new great article of commerce to foreign countries. In the reign of Henry V. the trade had become of such importance that a special Act was passed providing for the admeasurement of ships and barges employed in the coal trade.

King John stoutly claimed for England the sovereignty of the sea—he was not always so firm and decided—and decreed that all foreign ships, the masters of which should refuse to strike their colours to the British flag, should be seized and deemed good and lawful prizes. This monarch is stated to have fitted out no less than 500 ships, under the Earl of Salisbury, in the year 1213, against a fleet of ships three times that number, organised by Philip of France, for the invasion of England. After a stubborn battle, the English were successful, taking 300 sail, and driving more than 100 ashore, Philip being under the necessity of destroying the remainder to prevent them falling into the hands of their enemies. Some notion may be gained of the kinds of ships of which these fleets were composed, by the account that is narrated of an action fought in the following reign with the French, who, with eighty "stout ships," threatened the coast of Kent. This fleet being discovered by Hubert de Burgh, governor of Dover Castle, he put to sea with half the number of English vessels, and having got to the windward of the enemy, and run down many of the smaller ships, he closed with the rest, and threw on board them a quantity of quick-lime—a novel expedient in warfare —which so blinded the crews that their vessels were either captured or sunk. The dominion of the sea was bravely maintained by our Edwards and Henrys in many glorious sea-fights. The temper of the times is strongly exemplified by the following circumstance. In the reign of Edward I. an English sailor was killed in a Norman port, in consequence of which war was declared by England against France, and the two nations agreed to decide the dispute on a certain day, with the whole of their respective naval forces. The spot of battle was to be the middle of the Channel, marked out by anchoring there an empty ship. This strange duel of nations actually took place, for the two fleets met on April 14th, 1293, when the English obtained the victory, and carried off in triumph 250 vessels from the enemy. In an action off the harbour of Sluys with the French fleet, Edward III. is said to have slain 30,000 of the enemy, and to have taken 200 large ships, "in one of which only, there were 400 dead bodies." The same monarch, at the siege of Calais, is stated to have blockaded that port with 730 sail, having on board 14,956 mariners. The size of the vessels employed must have been rapidly enlarging.

DUEL BETWEEN FRENCH AND ENGLISH SHIPS.

Chaucer gives us a graphic description of the British sailor of the fourteenth century in his Prologue to the "Canterbury Tales." It runs as follows :—

"A schipman was ther, wonyng fer by Weste:
For ought I woot, he was of Dertemouthe,
He rood upon a rouncy, as he couthe,
In a goun of faldying to the kne.
A dagger hangyng on a laas hadde he
Aboute his nekke under his arm adoun.
The hoote somer had maad his hew al broun;
And certainly he was a good felawe.
Ful many a draught of wyn had he drawe
From Burdeux-ward, whil that the chapman sleep.
Of nyce conscience took he no keep.
If that he foughte, and hadde the heigher hand,
By water he sent hem hoom to every land.
But of his craft to rikne wel the tydes,
His stremes and his dangers him bisides,
His herbergh and his mane his lode menage,
Ther was non such from Hulle to Cartage.
Hardy he was, and wys to undertake;
With many a tempest hadde his berd ben schake.

He knew well alle the havens, as thei were,
From Scotland to the Cape of Fynestere,
And every cryk in Bretayne and in Spayne,
His barge y-cleped was the *Magdelayne*."

In the reign of Henry V., the most glorious period up to that time of the British Navy, the French lost nearly all their navy to us at various times; among other victories, Henry Page, Admiral of the Cinque Ports, captured 120 merchantmen forming the Rochelle fleet, and all richly laden. Towards the close of this reign, about the year 1416, England formally claimed the dominion of the sea, and a Parliamentary document recorded the fact. "It was never absolute," says Sir Walter Raleigh, "until the time of Henry VIII." That great voyager and statesman adds that, "Whoever commands the sea, commands the trade of the world; whosoever commands the trade, commands the riches of the world, and consequently the world itself."

A curious poem is included in the first volume of Hakluyt's famous collection of voyages, bearing reference to the navy of Henry. It is entitled, "The English Policie, exhorting all England to keep the Sea," &c. It was written apparently about the year 1435. It is a long poem, and the following is an extract merely:—

"And if I should conclude all by the King,
Henrie the Fift, what was his purposing,
Whan at Hampton he made the great *dromons*,
Which passed other great ships of the Commons;
The *Trinitie*, the *Grace de Dieu*, the *Holy Ghost*,
And other moe, which as nowe be lost.
What hope ye was the king's great intente
Of thoo shippes, and what in mind be meant:
It is not ellis, but that *he cast to bee*
Lord round about environ of the see.
And if he had to this time lived here,
He had been Prince named withouten pere:
His great ships should have been put in preefes,
Unto the ende that he ment of in chiefes.
For doubt it not but that he would have bee
Lord and Master about the rand see:
And kept it sure, to stoppe our ennemies hence,
And wonne us good, and wisely brought it thence,
That our passage should be without danger,
And his license on see to move and sterre."

When the king had determined, in 1415, to land an army in France, he hired ships from Holland, Zeeland, and Friesland, his own naval means not being sufficient for the transport; among his other preparations, "requisite for so high an enterprise," boats covered with leather, for the passage of rivers, are mentioned. His fleet consisted of 1,000 sail, and it left Southampton on Sunday, the 11th of August, of the above-mentioned year. When the ships had passed the Isle of Wight, "swans were seen swimming in the midst of the fleet, which was hailed as a happy auspice." Henry anchored on the following Tuesday at the mouth of the Seine, about three miles from Harfleur. A council

of the captains was summoned, and an order issued that no one, under pain of death, should land before the king, but that all should be in readiness to go ashore the next morning. This was done, and the bulk of the army, stated to have comprised 24,000 archers, and 6,000 men of arms, was landed in small vessels, boats, and skiffs, taking up a position on the hill nearest to Harfleur. The moment Henry landed he fell on his knees and implored the Divine aid and protection to lead him on to victory, then conferring knighthood on many of his followers. At the entrance of the port a chain had been stretched between two large, well-armed towers, while it was farther protected by stakes and trunks of trees to prevent the vessels from approaching. During the siege, which lasted thirty-six days, the fleet blockaded the port, and at its conclusion Henry, flushed with a victory, which is said to have cost the English only 1,600 and the enemy 10,000 lives, determined to march his army through France to Calais. It was on this march that he won the glorious battle of Agincourt. On the 16th of November he embarked for Dover, reaching that port the same day. Here a magnificent ovation awaited him. The burgesses rushed into the sea and bore him ashore on their shoulders; the whole population was intoxicated with delight. One chronicler states that the passage across had been extremely boisterous, and that the French noblemen suffered so much from sea-sickness that they considered the trip worse than the very battles themselves in which they had been taken prisoners! When Henry arrived near London, a great concourse of people met him at Blackheath, and he, "as one remembering from whom all victories are sent," would not allow his helmet to be carried before him, whereon the people might have seen the blows and dents that he had received; "neither would he suffer any ditties to be made and sung by minstrels of his glorious victory, for that he would have the praise and thanks altogether given to God."

REVERSE OF THE SEAL OF SANDWICH.

Next year the French attempted to retake Harfleur. Henry sent a fleet of 400 sail to the rescue, under his brother John, Duke of Bedford, the upshot being that almost the whole French fleet, to the number of 500 ships, hulks, carracks, and small vessels were taken or sunk. The English vessels remained becalmed in the roadstead for three weeks afterwards. Southey, who has collated all the best authorities in his admirable naval work,* says:—"The bodies which had been thrown overboard in the action, or sunk in the enemies' ships, rose and floated about them in great numbers; and the English may have deemed it a relief from the contemplation of that ghastly sight, to be kept upon the alert by some galleys, which taking advantage of the calm, ventured as near them as they dare by day and night, and endeavoured to burn the ships with wildfire." He adds that the first mention of wildfire he had found is by Hardyng, one of the earliest of our poets, in the following passage referring to this event:—

"With oars many about us did they wind,
With wildfire oft assayled us day and night,
To brenne our ships in that they could or might."

* "The British Admirals: with an Introductory View of the Naval History of England."

Next year we read of Henry preparing to again attack France. The enemy had increased their naval force by hiring a number of Genoese and other Italian vessels. The king sent a preliminary force against them under his kinsman, the Earl of Huntingdon, who, near the mouth of the Seine, succeeded in sinking three and capturing three of the great Genoese carracks, taking the Admiral Jacques, the Bastard of Bourbon, "and as much money as would have been half a year's pay for the whole fleet." These prizes were brought to Southampton, "from whence the king shortly set forth with a fleet of 1,500 ships, the sails of his own vessel being of purple silk, richly embroidered with gold." The remainder of Henry's brief reign—for he died the same year—is but the history of a series of successes over his enemies.

It must never be forgotten that the navies of our early history were not permanently organised, but drawn from all sources. A noble, a city or port, voluntarily or otherwise, contributed according to the exigencies of the occasion. As we shall see, it is to Henry VIII. that we owe the establishment of a Royal Navy as a permanent institution. In 1546 King Henry's vessels are classified according to their "quality," thus: "ships," "galleases," "pynaces," "roe-barges." A list bearing date in 1612 exhibits the classes as follows:—"Shipps royal," measuring downwards from 1,200 to 800 tons; "middling shipps," from 800 to 600 tons; "small shipps," 350 tons; and pinnaces, from 200 to 80 tons. According to the old definition, a ship was defined to be a "large hollow building, made to pass over the seas with sails," without reference to size or quality. Before the days of the *Great Harry*, few, if any, English ships had more than one mast or one sail; that ship had three masts, and the *Henri Grace de Dieu*, which supplanted her, four. The galleas was probably a long, low, and sharp-built vessel, propelled by oars as well as by sails; the latter probably not fixed to the mast or any standing yard, but hoisted from the deck when required to be used, as in the lugger or felucca of modern days. The pinnace was a smaller description of galleas, while the row-barge is sufficiently explained by its title.

The history of the period following the reign of Henry V. has much to do with shipping interests of all kinds. The constant wars and turbulent times gave great opportunity for piracy in the Channel and on the high seas. Thus we read of Hannequin Leeuw, an outlaw from Ghent, who had so prospered in piratical enterprises that he got together a squadron of eight or ten vessels, well armed and stored. He not only infested the coast of Flanders, and Holland, and the English Channel, but scoured the coasts of Spain as far as Gibraltar, making impartial war on any or all nations, and styling himself the "Friend of God, and the enemy of all mankind." This pirate escaped the vengeance of man, but at length was punished by the elements: the greater part of his people perished in a storm, and Hannequin Leeuw disappeared from the scene. Shortly afterwards we find the Hollanders and Zeelanders uniting their forces against the Easterling pirates, then infesting the seas, and taking twenty of their ships. "This action," says Southey, "was more important in its consequences than in itself; it made the two provinces sensible, for the first time, of their maritime strength, and gave a new impulse to that spirit of maritime adventure which they had recently begun to manifest." Previously a voyage to Spain had been regarded as so perilous, that "whoever undertook it settled his

worldly and his spiritual affairs as if preparing for death, before he set forth," while now they opened up a brisk trade with that country and Portugal. Till now they had been compelled to bear the insults and injuries of the Easterlings without combined attempt at defence; now they retaliated, captured one of their admirals on the coast of Norway, and hoisted a besom at the mast-head in token that they had swept the seas clean from their pirate enemies.

And now, in turn, some of them became pirates themselves, more particularly Hendrick van Borselen, Lord of Veere, who assembled all the outlaws he could gather, and committed such depredations, that he was enabled to add greatly to his possessions in Walcheren, by the purchase of confiscated estates. He received others as grants from his own duke, who feared him, and thought it prudent at any cost to retain, at least in nominal obedience, one who might render himself so obnoxious an enemy. "This did not prevent the admiral—for he held that rank under the duke—from infesting the coast of Flanders, carrying off cattle from Cadsant, and selling them publicly in Zeeland. His excuse was that the terrible character of his men compelled him to act as he did; and the duke admitted the exculpation, being fain to overlook outrages which he could neither prevent nor punish." A statute of the reign of Henry VI. sets forth the robberies committed upon the poor merchants of this realm, not merely on the sea, but even in the rivers and ports of Britain, and how not merely they lost their goods, but their persons also were taken and imprisoned. Nor was this all, for "the king's poor subjects dwelling nigh the sea-coasts were taken out of their own houses, with their chattels and children, and carried by the enemies where it pleased them." In consequence, the Commons begged that an armament might be provided and maintained on the sea, which was conceded, and for a time piracy on English subjects was partially quashed.

Meantime, we had pirates of our own. Warwick, the king-maker, was unscrupulous in all points, and cared nothing for the lawfulness of the captures which he could make on the high seas. For example, when he left England for the purpose of securing Calais (then belonging to England) and the fleet for the House of York, he having fourteen well-appointed vessels, fell in with a fleet of Spaniards and Genoese. "There was a very sore and long continued battle fought betwixt them," lasting almost two days. The English lost a hundred men; one account speaks of the Spanish and Genoese loss at 1,000 men killed, and another of six-and-twenty vessels sunk or put to flight. It is certain that three of the largest vessels were taken into Calais, laden with wine, oil, iron, wax, cloth of gold, and other riches, in all amounting in value to no less than £10,000. The earl was a favourite with the sailors, probably for the license he gave them; when the Duke of Somerset was appointed by the king's party to the command of Calais, from which he was effectually shut out by Warwick, they carried off some of his ships and deserted with them to the latter. Not long after, when reinforcements were lying at Sandwich waiting to cross the Channel to Somerset's aid, March and Warwick borrowed £18,000 from merchants, and dispatched John Dynham on a piratical expedition. He landed at Sandwich, surprised the town, took Lord Rivers and his son in their beds, robbed houses, took the principal ships of the king's navy, and carried them off, well furnished as they were with ordnance and artillery. For a time Warwick carried all before him, but not a few

of his actions were most unmitigated specimens of piracy, on nations little concerned with the Houses of York and Lancaster, their quarrels or wars.

But as this is not intended to be even a sketch of the history of England, let us pass to the commencement of the reign of Henry VII., when the "great minishment and decay of the navy, and the idleness of the mariners," were represented to his first Parliament, and led to certain enactments in regard to the use of foreign bottoms. The wines of Southern France were forbidden to be imported hither in any but English, Irish, or Welsh ships,

SIR ANDREW WOOD'S VICTORY.

manned by English, Irish, or Welsh sailors. This Act was repeated in the fourth year of Henry's reign, and made to include other articles, while it was then forbidden to freight an alien ship from or to England with "any manner of merchandise," if sufficient freight were to be had in English vessels, on pain of forfeiture, one-half to the king, the other to the seizers. "Henry," says Lord Bacon, "being a king that loved wealth, and treasure, he could not endure to have trade sick, nor any obstruction to continue in the gate-vein which disperseth that blood." How well he loved riches is proved by the fact that when a speedy and not altogether creditable peace was established between England and France, and the indemnity had been paid by the latter, the money went into the king's private coffers; those who had impoverished themselves in his service, or had contributed to the general outfit by the forced "benevolence," were left out in the cold. From Calais Henry

wrote letters to the Lord Mayor and aldermen ("which was a courtesy," says Lord Bacon, "that he sometimes used), half bragging what great sums he had obtained for the peace, as knowing well that it was ever good news in London that the king's coffers were full; better news it would have been if their benevolence had been but a loan."

Scotch historians tell us that Sir Andrew Wood, of Largo, Scotland, had with his two vessels, the *Flower* and *Yellow Carvel*, captured five chosen vessels of the royal navy, which had infested the Firth of Forth, and had taken many prizes from the Scotch previously, during this reign. Henry VII. was greatly mortified by this defeat, and offered to put any means at the disposal of the officer who would undertake this service, and great rewards if Wood were brought to him alive or dead. All hesitated, such was the renown of Wood, and his strength in men and artillery, and maritime and military skill. At length, Sir Stephen Bull, a man of distinguished prowess, offered himself, and three ships were placed under his command, with which he sailed for the Forth, and anchored behind the Isle of May, waiting Wood's return from a foreign voyage. Some fishermen were captured and detained, in order that they should point out Sir Andrew's ships when they arrived. "It was early in the morning when the action began; the Scots, by their skilful manœuvring, obtained the weather-gage, and the battle continued in sight of innumerable spectators who thronged the coast, till darkness suspended it. It was renewed at day-break; the ships grappled; and both parties were so intent upon the struggle, that the tide carried them into the mouth of the Tay, into such shoal water that the English, seeing no means of extricating themselves, surrendered. Sir Andrew brought his prizes to Dundee; the wounded were carefully attended there; and James, with royal magnanimity is said to have sent both prisoners and ships to Henry, praising the courage which they had displayed, and saying that the contest was for honour, not for booty."

Few naval incidents occurred under the reign of Henry VII., but it belongs, nevertheless, to the most important age of maritime discovery. Henry had really assented to the propositions of Columbus after Portugal had refused them; had not the latter's brother, Bartholomew, been captured by pirates on his way to England, and detained as a slave at the oar, the Spaniards would not have had the honour of discovering the New World. This, and the grand discoveries of Cabot (directly encouraged by Henry), who reached Newfoundland and Florida; the various expeditions down the African coast instituted by Dom John; the discovery of the Cape and new route to India by Diaz and Vasco da Gama; the discovery of the Pacific by Balboa, and Cape Horn and the Straits by Magellan, will be detailed in another section of this work. They belong to this and immediately succeeding reigns, and mark the grandest epoch in the history of geographical discovery.

"The use of fire-arms," says Southey, "without which the conquests of the Spaniards in the New World must have been impossible, changed the character of naval war sooner than it did the system of naval tactics, though they were employed earlier by land than by sea." It is doubtful when cannon was first employed at sea; one authority* says that it was by the Venetians against the Genoese, before 1330. Their use necessitated

* Charnock: "History of Marine Architecture."

very material alterations in the structure of war-ships. The first port-holes are believed to have been contrived by a ship-builder at Brest, named Descharges, and their introduction took place in 1499. They were "circular holes, cut through the sides of the vessel, and so small as scarcely to admit of the guns being traversed in the smallest degree, or fired otherwise than straightforward." Hitherto there had been no distinctions between the vessels used in commerce and in the king's service; the former being constantly employed for the latter; but now we find the addition of another tier, and a general enlargement of the war-vessels. Still, when any emergency required, merchant vessels, not merely English, but Genoese, Venetian, and from the Hanse Towns, were constantly hired for warfare. So during peace the king's ships were sometimes employed in trade, or freighted to merchants. Henry was very desirous of increasing and maintaining commercial relations with other countries. In the commission to one of his ambassadors, he says, "The earth being the common mother of all mankind, what can be more pleasant or more humane than to communicate a portion of all her productions to all her children by commerce?" Many special commercial treaties were made by him, and one concluded with the Archduke Philip after a dispute with him, which had put a stop to the trade with the Low Countries, was called the great commercial treaty (*intercursus magnus*). "It was framed with the greatest care to render the intercourse between the two countries permanent, and profitable to both."

The first incident in the naval history of the next reign, that of Henry VIII., grew out of an event which had occurred long before. A Portuguese squadron had, in the year 1476, seized a Scottish ship, laden with a rich cargo, and commanded by John Barton. Letters of marque were granted him, which he had not, apparently, used to any great advantage, for they were renewed to his three sons thirty years afterwards. The Bartons were not content with repaying themselves for their loss, but found the Portuguese captures so profitable that they became confirmed pirates, "and when they felt their own strength, they seem, with little scruple, to have considered ships of any nation as their fair prize." Complaints were lodged before Henry, but were almost ignored, "till the Earl of Surrey, then Treasurer and Marshal of England, declared at the council board, that while he had an estate that could furnish out a ship, or a son that was capable of commanding one, the narrow seas should not be so infested." Two ships, commanded by his two sons, Sir Thomas and Sir Edward Howard, were made ready, with the king's knowledge and consent. The two brothers put to sea, but were separated by stress of weather; the same happened to the two pirate ships—the *Lion*, under Sir Andrew Barton's own command, and the *Jenny Perwin*, or *Bark of Scotland*. The strength of one of them is thus described in an old ballad, by a merchant, one of Sir Andrew's victims, who is supposed to relate his tale to Sir Thomas Howard:—

"He is brass within, and steel without,
With beams on his top-castle strong;
And thirty pieces of ordnance
He carries on each side along;
And he hath a pinnace dearly dight,
St. Andrew's Cross it is his guide;

His pinnace beareth nine score men,
And fifteen cannons on each side.
* * * *
Were ye twenty ships, and he but one,
I swear by Kirk, and bower and hall,
He would overcome them every one
If once his beams they do down fall."

OLD DEPTFORD DOCKYARD.

But it was not so to be. Sir Thomas Howard, as he lay in the Downs, descried the former making for Scotland, and immediately gave chase, "and there was a sore battle. The Englishmen were fierce, and the Scots defended themselves manfully, and ever Andrew blew his whistle to encourage his men. Yet, for all that, Lord Howard and his men, by clean force, entered the main deck. There the English entered on all sides, and the Scots fought sore on the hatches; but, in conclusion, Andrew was taken, being so sore wounded that he died there, and then the remnant of the Scots were taken, with their ship." Meantime Sir Edward Howard had encountered the other piratical ship, and though the Scots defended themselves like "hardy and well-stomached men," succeeded in boarding it. The prizes were taken to Blackwall, and the prisoners, 150 in number, being all left alive, "so bloody had the action been," were tried at Whitehall, before the

THE DEFEAT OF SIR ANDREW BARTON.

Bishop of Winchester and a council. The bishop reminded them that "though there was peace between England and Scotland, they, contrary to that, as thieves and pirates, had robbed the king's subjects within his streams, wherefore they had deserved to die by the law, and to be hanged at the low-water mark. Then, said the Scots, 'We acknowledge our offence, and ask mercy, and not the law,' and a priest, who was also a prisoner, said, 'My lord, we appeal from the king's justice to his mercy.' Then the bishop asked if he were authorised by them to say thus, and they all cried, 'Yea, yea!' 'Well, then,' said the bishop, 'you shall find the king's mercy above his justice; for, where you were dead by the law, yet by his mercy he will revive you. You shall depart out of this realm within twenty days, on pain of death if ye be found after the twentieth day; and pray for the king.'" James subsequently required restitution from Henry, who answered "with brotherly salutation" that "it became not a prince to charge his confederate with breach of peace for doing justice upon a pirate and thief." But there is no doubt that it was regarded as a national affair in Scotland, and helped to precipitate the war which speedily ensued.

Some of the edicts of the period seem strange enough to modern ears. The Scotch Parliament had passed an Act forbidding any ship freighted with staple goods to put to sea during the three winter months, under a penalty of five pounds. In 1493, a generation after the Act was passed, another provided that *all* burghs and towns should provide ships and busses, the least to be of twenty tons, fitted according to the means of the said places, provided with mariners, nets, and all necessary gear for taking "great fish and small." The officers in every burgh were to make all the "stark idle men" within their bounds go on board these vessels, and serve them there for their wages, or, in case of refusal, banish them from their burgh. This was done with the idea of training a maritime force, but seems to have produced little effect. James IV. built a ship, however, which was, according to Scottish writers, larger and more powerfully armed than any then built in England or France. She was called the *Great Michael*, and "was of so great stature that she wasted all the oak forests of Fife, Falkland only excepted." Southey reminds us that the Scots, like the Irish of the time, were constantly in feud with each other, and consequently destroyed their forests, to prevent the danger of ambuscades, and also to cut off the means of escape. Timber for this ship was brought from Norway, and though all the shipwrights in Scotland and many others from foreign countries were busily employed upon her, she took a year and a day to complete. The vessel is described as twelve score feet in length, and thirty-six in breadth of beam, within the walls, which were ten feet each thick, so that no cannon-ball could go through them. She had 300 mariners on board, six score gunners, and 1,000 men-of-war, including officers, "captains, skippers, and quarter-masters." Sir Andrew Wood and Robert Barton were two of the chief officers. "This great ship cumbered Scotland to get her to sea. From the time that she was afloat, and her masts and sails complete, with anchors offering thereto, she was counted to the king to be thirty thousand pounds expense, by her artillery, which was very costly." The *Great Michael* never did enough to have a single exploit recorded, nor was she unfortunate enough to meet a tragic ending.

In 1511 war was declared against France, and Henry caused many new ships to be

made, repairing and rigging the old. After an action on the coast of Brittany, where both claimed the advantage, and where two of the largest vessels—the *Cordelier*, with 900 Frenchmen, and the *Regent*, with 700 Englishmen, were burned—nearly all on board perishing, Henry advised "a great ship to be made, such as was never before seen in England, and which was named the *Henri Grace de Dieu*, or popularly the *Great Harry*.* There are many ancient representations of this vessel, which is said to have cost £11,000, and to have taken 400 men four whole days to work from Erith, where she was built, to Barking Creek. "The masts," says a well-known authority, "were five in number," but he goes on clearly to show that the fifth was simply the bowsprit; they were in one piece, as had been the usual mode in all previous times, although soon to be altered by the introduction of several joints or top-masts, which could be lowered in time of need. The rigging was simple to the last degree, but there was a considerable amount of ornamentation on the hull, and small flags were disposed almost at random on different parts of the deck and gunwale, and one at the head of each mast. The standard of England was hoisted on the principal mast; enormous pendants, or streamers, were added, though ornaments which must have been often inconvenient. The *Great Harry* was of 1,000 tons, and in—so far as the writer can discover—the only skirmish she was concerned in the Channel, for it could not be dignified by the name of an engagement, carried 700 men. She was burned at Woolwich, at the opening of Mary's reign, through the carelessness of the sailors.

In the reign of Henry VIII. a navy office was first formed, and regular arsenals were established at Portsmouth, Woolwich, and Deptford. The change in maritime warfare consequent on the use of gunpowder rendered ships of a new construction necessary, and more was done for the improvement of the navy in this reign than in any former one. Italian shipwrights, then the most expert, were engaged, and at the conclusion of Henry's reign the Royal Navy consisted of seventy-one vessels, thirty of which were ships of respectable burden, aggregating 10,550 tons. Five years later, it had dwindled to less than one-half. Six years after Henry's death, England lost Calais, a fort and town which had cost Edward III., in the height of his power, an obstinate siege of eleven months. But on Elizabeth's accession to the throne, the star of England was once more in the ascendant.

Elizabeth commenced her reign by providing in all points for war, that she "might the more quietly enjoy peace." Arms and weapons were imported from Germany, at considerable cost, but in such quantities that the land had never before been so amply stored with "all kinds of convenient armour and weapons." And she, also, was the first to cause the manufacture of gunpowder in England, that she "might not both pray and pay for it too to her neighbours." She allowed the free exportation of herrings and all other sea-fish in English bottoms, and a partial exemption from impressment was granted to all fishermen; while to encourage their work, Wednesday and Saturday were made "fish-days;" this, it was stated, "was meant politicly, not for any superstition to be maintained in the choice of meats." The navy became her great care, so much that

* It has been clearly shown that a large vessel which had been built by Henry VII. bore the same name. The above was a successor, probably built after the first had become unfit for service.

"foreigners named her the restorer of the glory of shipping, and the Queen of the North Sea." She raised the pay of sailors. "The wealthier inhabitants of the sea-coast," says Camden, "in imitation of their princess, built ships of war, striving who should exceed, insomuch that the Queen's Navy, joined with her subjects' shipping, was, in short time, so puissant that it was able to bring forth 20,000 fighting men for sea service."

The greatest and most glorious event of her reign was, without cavil, the defeat of the Spanish Armada, at one time deemed and called "The Invincible." With the political complications which preceded the invasion, we have nought to do: it was largely a religious war, inasmuch as Popish machinations were at the bottom of all. When the contest became inevitable, the Spanish Government threw off dissimulation, and showed "a disdainful disregard of secrecy as to its intentions, or rather a proud manifestation of them, which," says Southey, "if they had been successful, might have been called magnanimous." Philip had determined on putting forth his might, and accounts which were ostentatiously published in advance termed it "The most fortunate and invincible Armada." The fleet consisted of 130 ships and twenty caravels, having on board nearly 20,000 soldiers, 8,450 marines, 2,088 galley-slaves, with 2,630 great pieces of brass artillery. The names of all the saints appeared in the nomenclature of the ships, "while," says Southey, "holier appellations, which ought never to be thus applied, were strangely associated with the Great Griffin and the Sea Dog, the Cat and the White Falcon." Every noble house in Spain was represented, and there were 180 friars and Jesuits, with Cardinal Allen at their head, a prelate who had not long before published at Antwerp a gross libel on Elizabeth, calling her "heretic, rebel, and usurper, an incestuous bastard, the bane of Christendom, and firebrand of all mischief." These priests were to bring England back to the true Church the moment they landed. The galleons being above sixty in number were, "exceeding great, fair, and strong, and built high above the water, like castles, easy to be fought withal, but not so easy to board as the English and the Netherland ships; their upper decks were musket-proof, and beneath they were four or five feet thick, so that no bullet could pass them. Their masts were bound about with oakum, or pieces of fazeled ropes, and armed against all shot. The galleases were goodly great vessels, furnished with chambers, chapels, towers, pulpits, and such-like; they rowed like galleys, with exceeding great oars, each having 300 slaves, and were able to do much harm with their great ordnance." Most severe discipline was to be preserved; blasphemy and oaths were to be punished rigidly; gaming, as provocative of these, and quarrelling, were forbidden; no one might wear a dagger; religious exercises, including the use of a special litany, in which all archangels, angels, and saints, were invoked to assist with their prayers against the English heretics and enemies of the faith, were enjoined. "No man," says Southey, "ever set forth upon a bad cause with better will, nor under a stronger delusion of perverted faith." The gunners were instructed to have half butts filled with water and vinegar, wet clothes, old sails, &c., ready to extinguish fire, and what seems strange now-a-days, in addition to the regular artillery, every ship was to carry two boats'-loads of large stones, to throw on the enemy's decks, forecastles, &c., during an encounter.

Meantime Elizabeth and her ministers were fully aware of the danger, and the appeals made to the Lords, and through the lord-lieutenants of counties were answered

nobly. The first to present himself before the queen was a Roman Catholic peer, the Viscount Montague, who brought 200 horsemen led by his own sons, and professed the resolution that "though he was very sickly, and in age, to live and die in defence of the queen and of his country, against all invaders, whether it were Pope, king, or potentate whatsoever." The city of London, when 5,000 men and fifteen ships were required, prayed the queen to accept twice the number. "In a very short time all her whole realm, and every corner, were furnished with armed men, on horseback and on foot; and those continually trained, exercised, and put into bands in warlike manner, as in no age ever was before in this realm. There was no sparing of money to provide horse, armour, weapons, powder, and all necessaries." Thousands volunteered their services personally without wages; others money for armour and weapons, and wages for soldiers. The country was never in better condition for defence.

Some urged the queen to place no reliance on maritime defence, but to receive the enemy only on shore. Elizabeth thought otherwise, and determined that the enemy should reap no more advantage on the sea than on land. She gave the command of the whole fleet to Charles Lord Howard of Effingham; Drake being vice-admiral, and Hawkins and Frobisher—all grand names in naval history—being in the western division. Lord Henry Seymour was to lie off the coast of Flanders with forty ships, Dutch and English, and prevent the Prince of Parma from forming a junction with the Armada. The whole number of ships collected for the defence of the country was 191, and the number of seamen 17,472. There was one ship in the fleet (the *Triumph*) of 1,100 tons, one of 1,000, one of 900, and two of 800 tons each, but the larger part of the vessels were very small, and the aggregate tonnage amounted to only about half that of the Armada. For the land defence over 100,000 men were called out, regimented, and armed, but only half of them were trained. This was exclusive of the Border and Yorkshire forces.

The Armada left the Tagus in the latter end of May, 1588, for Corunna, there to embark the remainder of the forces and stores. On the 30th of the same month, the Lord Admiral and Sir Francis Drake sailed from Plymouth. A serious storm was encountered, which dismasted some and dispersed others of the enemy's fleet, and occasioned the loss of four Portuguese galleys. One David Gwynne, a Welshman, who had been a galley-slave for eleven years, took the opportunity this storm afforded, and regained his liberty. He made himself master of one galley, captured a second, and was joined by a third, in which the wretched slaves were encouraged to rise by his example, and successfully carried the three into a French port. After this disastrous commencement, the Armada put back to Corunna, and was pursued thither by Effingham; but as he approached the coast of Spain, the wind changed, and as he was afraid the enemy might effect the passage to the Channel unperceived, he returned to its entrance, whence the ships were withdrawn, some to the coast of Ireland, and the larger part to Plymouth, where the men were allowed to come ashore, and the officers made merry with revels, dancing, and bowling. The enemy was so long in making an appearance, that even Elizabeth was persuaded the invasion would not occur that year; and with this idea, Secretary Walsingham wrote to the admiral to send back four of his largest ships. "Happily for England, and most honourably for himself, the Lord Effingham, though he had relaxed his vigilance,

saw how perilous it was to act as if all were safe. He humbly entreated that nothing might be lightly credited in so weighty a matter, and that he might retain these ships, though it should be at his own cost. This was no empty show of disinterested zeal; for if the services of those ships had not been called for, there can be little doubt, that in the

THE FIRST SHOT AGAINST THE ARMADA.

rigid parsimony of Elizabeth's government, he would have been called upon to pay the costs."

The Armada, now completely refitted, sailed from Corunna on July 12th, and when off the Lizard were sighted by a pirate, one Thomas Fleming, who hastened to Plymouth with the news, and not merely obtained pardon for his offences, but was awarded a pension for life. At that time the wind "blew stiffly into the harbour," but all hands were got on board, and the ships were warped out, the Lord Admiral encouraging the men, and hauling

at the ropes himself. By the following day thirty of the smaller vessels were out, and next day the Armada was descried "with lofty turrets like castles, in front like a half-moon; the wings thereof speading out about the length of seven miles, sailing very slowly though with full sails; the wind," says Camden, "being as it were weary with wafting them, and the ocean groaning under their weight." The Spaniards gave up the idea of attacking Plymouth, and the English let them pass, that they might chase them in the rear. Next day the Lord Admiral sent the *Defiance* pinnace forward, and opened the attack by discharging her ordnance, and later his own ship, the *Ark Royal*, "thundered thick and furiously" into the Spanish vice-admiral's ship, and soon after, Drake, Hawkins, and Frobisher, gave the Admiral Recalde a very thorough peppering. That officer's ship was rendered nearly unserviceable, and he was obliged to crowd on sail to catch up with the others, who showed little disposition for fighting. After a smart action in which he had injured the enemy much, and suffered little hurt himself, Effingham gave over, because forty of his ships had not yet come up from Plymouth. During the night the Spaniards lost one of their ships, which was set on fire, it was believed, by a Flemish gunner, whose wife and self had been ill-treated by the officer of the troops on board. The fire was quenched, after all her upper works had been consumed; but when the Spaniards left the hulk, they abandoned fifty of their countrymen, "miserably hurt." This night was remarkable for a series of disasters and *contretemps*. A galleon, under the command of one Valdez, ran foul of another ship, broke her foremast, and was left behind. Effingham, supposing that the men had been taken out, without tarrying to take possession of the prize, passed on with two other vessels, that he might not lose sight of the enemy. "He thought that he was following Drake's ship, which ought to have carried the lanthorn that night; it proved to be a Spanish light, and in the morning he found himself in the midst of the enemy's fleet;" but he managed to get away unobserved, or at all events unpursued. Drake, meantime, was mistakably following in the dark and stormy night a phantom enemy, in the shape of five Easterling vessels. Meantime, the English fleet not seeing the expected light on Drake's ship, lay-to during the night. Drake, next morning, had the good fortune to fall in with Valdez, who, after a brief parley, surrendered, and the prize was sent into Plymouth. Drake and his men divided 55,000 golden ducats among them, as part of the spoil on board. The hulk of the galleon was taken to Weymouth, and although burned almost to the water's edge, the gunpowder in the hold remained intact and had not taken fire. The next day there was considerable manœuvring and skirmishing, but with no very memorable loss on either side. A great Venetian ship and some smaller ones were taken from the enemy, while on our side Captain Cook died with honour in the midst of the Spanish ships, in a little vessel of his own. Both sides were wary; Effingham did not think good to grapple with them, because they had an army in the fleet, while he had none; our army awaited their landing. The Spaniards meant as much as possible to avoid fighting, and hold on till they could effect a junction with the Prince of Parma. Next morning there was little wind, and only the four great galleases were engaged, these having the advantage on account of their oars, while the English were becalmed; the latter, however, did considerable execution with chain-shot, cutting asunder their tacklings and cordage. But they were now constrained to send ashore for gunpowder,

with which they were either badly supplied, or had expended too freely. Off the Isle of Wight, the English battered the Spanish admiral with their great ordnance, and shot away his mainmast; but other ships came to his assistance, beat them off, and set upon the English admiral, who only escaped by favour of a breeze which sprung up at the right moment. Camden relates how the English shot away the lantern from one of the Spanish ships, and the beak-head from a second, and that Frobisher escaped by the skin of his teeth from a situation of great danger. Still this was little more than skirmishing. "The Spaniards say that from that time they gave over what they call the pursuit of their enemy; and they dispatched a fresh messenger to the Prince of Parma, urging him to effect his junction with them as soon as possible, and withal to send them some great shot, for they had expended theirs with more prodigality than effect." On the other hand the English determined to wait till they could attack the enemy in the Straits of Dover, where they expected to be joined by the squadrons under Lord Seymour and Sir William Winter. Meantime Effingham's forces were being considerably increased by volunteers; "For the gentlemen of England hired ships from all parts at their own charge, and with one accord came flocking thither as to a set field." Among the volunteers were Sir Walter Raleigh, the Earls of Oxford, Northumberland, and Cumberland. On the evening of the 27th the Spaniards came to anchor off Calais, and the English ships, now 140 in number, "all of them ships fit for fight, good sailors, nimble and tight for tacking about which way they would, anchored within cannon-shot." A squadron of about thirty ships belonging to the States, acting in conjunction with the Admiral of Zeeland and his squadron, effectually blockaded Dunkirk, and the poor Prince of Parma, with his pressed men constantly deserting, his flat-bottomed boats leaky, and his provisions not ready, could do nothing.

The Spanish ships were almost invulnerable to the shot and ordnance of the day, and "their height was such that our bravest seamen were against any attempt at boarding them." These facts were well understood by Elizabeth's ministers, and the Lord Admiral was instructed to convert eight of his worst vessels into fire-ships. The orders arrived so *à propos* of the occasion, and were so swiftly executed, that within thirty hours after the enemy had cast anchor off Calais, the ships were unloaded and dismantled, filled with combustibles and all their ordnance charged, and their sides being smeared with pitch, rosin, and wildfire, were sent, in the dead of the night, with wind and tide, against the Spanish fleet. When the Spaniards saw the whole sea glittering and shining with the reflection of the flames, the guns exploding as the fire reached them, and a heavy canopy of dense smoke overhead obscuring the heavens, they remembered those terrible fire-ships which had been used so effectively in the Scheldt, and the cry resounded through the fleet, "The fire of Antwerp!" Some of the Spanish captains let their hawsers slip, some cut their cables, and in terror and confusion put to sea; "happiest they who could first be gone, though few or none could tell which course to take." In the midst of all this fearful excitement one of the largest of the galleases, commanded by D. Hugo de Moncada, ran foul of another ship, lost her rudder, floated about at the mercy of the tide, and at length ran upon Calais sands. Here she was assailed by the English small craft, who battered her with their guns, but dared not attempt boarding till the admiral sent

a hundred men in his boats, under Sir Amias Preston. The Spaniards fought bravely, but at length Moncada was shot through the head, and the galleas was carried by boarding. Most of the Spanish soldiers, 400 in number, jumped overboard and were drowned; the 300 galley-slaves were freed from their fetters. The vessel had 50,000 ducats on board, "a booty," says Speed, "well fitting the English soldiers' affections." The English

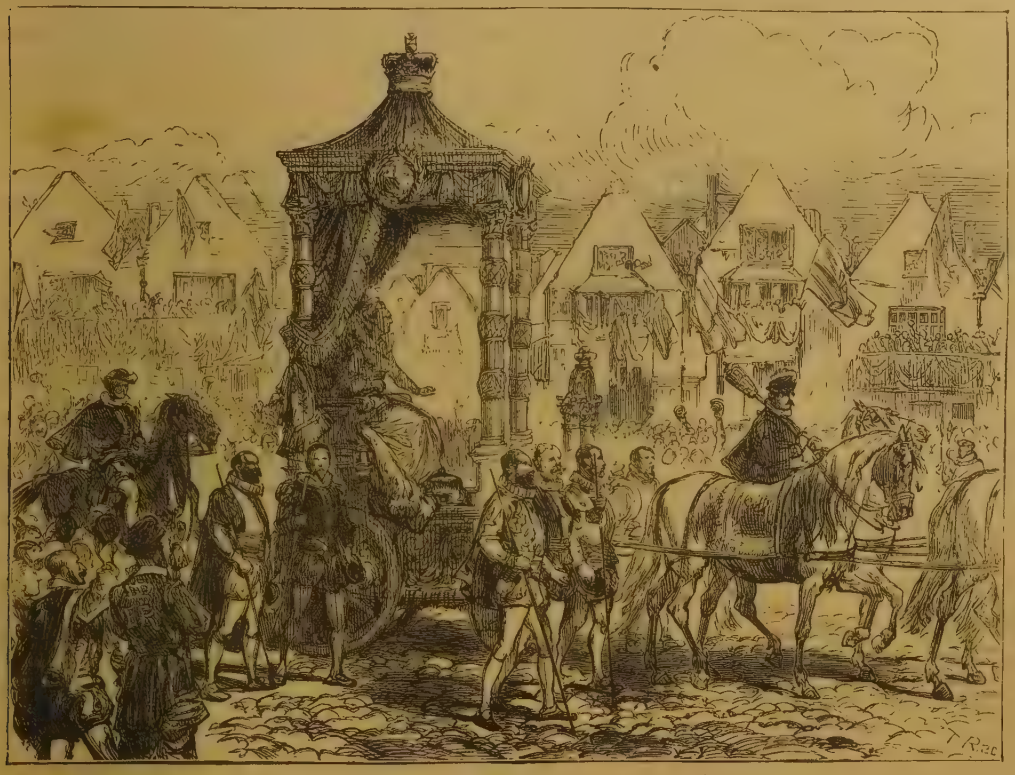
THE FIRE-SHIPS ATTACKING THE ARMADA.

were about to set the galleas on fire, but the governor of Calais prevented this by firing upon the captors, and the ship became his prize.

The Duke of Medina Sidonia, admiral of the Spanish Armada, had ordered the whole fleet to weigh anchor and stand out to sea when he perceived the approaching fire-ships; his vessels were to return to their former stations when the danger should be over. When he fired a signal for the others to follow his example, few of them heard it, "because they were scattered all about, and driven by fear, some of them in the wide sea, and driven among the shoals of Flanders." When they had once more congregated, they ranged themselves in order off Gravelines, where the final action was fought. Drake and Fenner were the first to assail them, followed by many brave captains, and lastly the

DRAKE'S FIRST VIEW OF THE PACIFIC.

admiral came up with Lord Thomas Howard and Lord Sheffield. There were scarcely two or three and twenty among their ships which matched ninety of the Spanish vessels in size, but the smaller vessels were more easily handled and manœuvred. "Wherefore," says Hakluyt, "using their prerogative of nimble steerage, whereby they could turn and wield themselves with the wind which way they listed, they came oftentimes very near upon the Spaniards, and charged them so sore, that now and then they were but a pike's length asunder; and so continually giving them one broadside after another, they



QUEEN ELIZABETH ON HER WAY TO ST. PAUL'S.

discharged all their shot, both great and small, upon them, spending a whole day, from morning till night, in that violent kind of conflict." During this action many of the Spanish vessels were pierced through and through between wind and water; one was sunk, and it was learnt that one of her officers, having proposed to strike, was put to death by another; the brother of the slain man instantly avenged his death, and then the ship went down. Others are believed to have sunk, and many were terribly shattered. One, which leaked so fast that fifty men were employed at the pumps, tried to run aground on the Flemish coast, where her captain had to strike to a Dutch commander. Our ships at last desisted from the contest, from sheer want of ammunition; and the Armada made an effort to reach the Straits. Here a great engagement was expected, but the fighting was over, and that which the hand of man barely commenced the

hand of God completed. The Spaniards "were now experimentally convinced that the English excelled them in naval strength. Several of their largest ships had been lost, others were greatly damaged; there was no port to which they could repair; and to force their way through the victorious English fleet, then in sight, and amounting to 140 sail, was plainly and confessedly impossible." They resolved upon returning to Spain by a northern route, and "having gotten more sea room for their huge-bodied bulks, spread their mainsails, and made away as fast as wind and water would give them leave." Effingham, leaving Seymour to blockade the Prince of Parma's force, followed what our chroniclers now termed the Vincible Armada, and pursued them to Scotland, where they did not attempt to land, but made for Norway, "where the English," says Drake, "thought it best to leave them to those boisterous and uncouth northern seas."

Meantime, it was still expected ashore that the Prince of Parma might effect a landing, and it was at this time that Elizabeth, who declared her intention to be present wherever the battle might be fought, rode through the soldiers' ranks at Tilbury, and made her now historical speech. "Incredible it is," says Camden, "how much she encouraged the hearts of her captains and soldiers by her presence and her words." When a false report was brought that the prince had landed, the news was immediately published throughout the camp, "and assuredly," says Southey, "if the enemy had set foot upon our shores they would have sped no better than they had done at sea, such was the spirit of the nation." Some time elapsed before the fate of the Armada was known. It was affirmed on the Continent that the greater part of the English fleet had been taken, and a large proportion sunk, the poor remainder having been driven into the Thames "all rent and torn." It was believed at Rome that Elizabeth was taken and England conquered! Meantime, the wretched Armada was being blown hither and thither by contending winds. The mules and horses had to be thrown overboard lest the water should fail. When they had reached a northern latitude, some 200 miles from the Scottish isles, the duke ordered them each to take the best course they could for Spain, and he himself with some five-and-twenty of his best provided ships reached it in safety. The others made for Cape Clear, hoping to water there, but a terrible storm arose, in which it is believed more than thirty of the vessels perished off the coast of Ireland. About 200 of the poor Spaniards were driven from their hiding-places and beheaded, through the inhumanity of Sir William Fitzwilliam. "Terrified at this, the other Spaniards, sick and starved as they were, committed themselves to the sea in their shattered vessels, and very many of them were swallowed up by the waves." Two of their ships were wrecked on the coasts of Norway. Some few got into the English seas; two were taken by cruisers off Rochelle. About 700 men were cast ashore in Scotland, were humanely treated, and subsequently sent, by request of the Prince of Parma, to the Netherlands. Of the whole Armada only fifty-three vessels returned to Spain; eighty-one were lost. The enormous number of 14,000 men, of whom only 2,000 were prisoners, were missing. By far the larger proportion were lost by shipwreck.

"Philip's behaviour," says Southey, "when the whole of this great calamity was known, should always be recorded to his honour. He received it as a dispensation of Providence, and gave, and commanded to be given, throughout Spain, thanks to God and the saints

that it was no greater." In England, a solemn thanksgiving was celebrated at St. Paul's, where the Spanish ensigns which had been taken were displayed, and the same flags were shown on London Bridge the following day, it being Southwark Fair. Many of the arms and instruments of torture taken are still to be seen in the Tower. Another great thanksgiving-day was celebrated on the anniversary of the queen's accession, and one of great solemnity, two days later, throughout the realm. On the Sunday following, the queen went "as in public, but Christian triumph," to St. Paul's, in a chariot "made in the form of a throne with four pillars," and drawn by four white horses; alighting from which at the west door, she knelt and "audibly praised God, acknowledging Him her only Defender, who had thus delivered the land from the rage of the enemy." Her Privy Council, the nobility, the French ambassador, the judges, and the heralds, accompanied her. The streets were hung with blue cloth and flags, "the several companies, in their liveries, being drawn up both sides of the way, with their banners in becoming and gallant order." Thus ended this most serious attempt at the invasion of England.

CHAPTER XVI.

The History of Ships and Shipping Interests (*continued*).

Noble Adventurers—The Earl of Cumberland as a Pirate—Rich Prizes—Action with the *Madre de Dios*—Capture of the Great Carrack—A Cargo worth £150,000—Burning of the *Cinco Chagas*—But Fifteen saved out of Eleven Hundred Souls—The *Scourge of Malice*—Establishment of the Slave Trade—Sir John Hawkins' Ventures—High-handed Proceedings—The Spaniards forced to Purchase—A Fleet of Slavers—Hawkins sanctioned by "Good Queen Bess"—Joins in a Negro War—A Disastrous Voyage—Sir Francis Drake—His First Loss—The Treasure at Nombre de Dios—Drake's First Sight of the Pacific—Tons of Silver Captured—John Oxenham's Voyage—The First Englishman on the Pacific—His Disasters and Death—Drake's Voyage Round the World—Blood-letting at the Equator—Arrival at Port Julian—Trouble with the Natives—Execution of a Mutineer—Passage of the Straits of Magellan—Vessels separated in a Gale—Loss of the *Marigold*—Tragic Fate of Eight Men—Drake Driven to Cape Horn—Proceedings at Valparaiso—Prizes taken—Capture of the great Treasure Ship—Drake's Resolve to change his Course Home—Vessel refitted at Nicaragua—Stay in the Bay of San Francisco—The Natives worship the English—Grand Reception at Ternate—Drake's Ship nearly wrecked—Return to England—Honours accorded Drake—His Character and Influence—Sir Humphrey Gilbert's Disasters and Death—Raleigh's Virginia Settlements.

The spirit of adventure, fostered by the grand discoveries which were constantly being made, the rich returns derived from trading expeditions, and from the pillage of our enemies, was at its zenith in the reign of Queen Elizabeth. Nor was it confined to mere soldiers of fortune, for we find distinguished noblemen of ample fortunes taking to the seas as though their daily bread depended thereupon. Among these naval adventurers "there was no one," says Southey, "who took to the seas so much in the spirit of a northern sea king as the Earl of Cumberland." He had borne his part in the defeat of the Armada, while still a young man, and the queen was so well satisfied with him, that she gave him a commission to go the same year to the Spanish coast as general, lending him the *Golden Lion*, one of the ships royal, he victualling and furnishing it at his own expense. After some fighting he took a prize, but soon after had to cut away his mainmast in a storm, and return to England. "His spirit remaining, nevertheless, higher than the winds, and more resolutely by storms compact and united in itself," we find him

shortly afterwards again on the high seas with the *Victory*, one of the queen's ships, and three smaller vessels. The earl was not very scrupulous as regards prize-taking, and captured two French ships, which belonged to the party of the League. A little later he fell in with eleven ships from Hamburg and the Baltic, and fired on them till the captains came on board and showed their passports; these were respected, but not so the property of a Lisbon Jew, which they confessed to have on their ships, and which was valued at £4,500. Off the Azores, he hoisted Spanish colours, and succeeded in robbing some Spanish vessels. The homeward-bound Portuguese fleet from the East Indies narrowly escaped him; when near Tercera some English prisoners stole out in a small boat, having no other yard for their mainsail than two pipe-staves, and informed him that the Portuguese ships had left the island a week before. This induced him to return to Fayal, and the terror inspired by the English name in those days is indicated by the fact that the town of about 500 houses was found to be completely empty; the inhabitants had abandoned it. He set a guard over the churches and monasteries, and then calmly waited till a ransom of 2,000 ducats was brought him. He helped himself to fifty-eight pieces of iron ordnance, and the Governor of Graciosa, to keep on good terms with the earl, sent him sixty butts of wine. While there a Weymouth privateer came in with a Spanish prize worth £16,000. Next we find the earl at St. Mary's, where he captured a Brazilian sugar ship. In bringing out their prize they were detained on the harbour bar, exposed to the enemy. Eighty of Cumberland's men were killed, and he himself was wounded; "his head also was broken with stones, so that the blood covered his face," and both his face and legs were burnt with fire-balls. The prize, however, was secured and forwarded to England.

Cumberland himself held on his course to Spain, and soon fell in with a ship of 400 tons, from Mexico, laden with hides, cochineal, sugar, and silver, "and the captain had with him a venture to the amount of 25,000 ducats," which was taken. They now resolved to return home, but "sea fortunes are variable, having two inconstant parents, air and water," and as one of the adventurers* concisely put it, "these summer services and ships of sugar proved not so sweet and pleasant as the winter was afterwards sharp and painful." Lister, the earl's captain, was sent in the Mexican prize for England, and was wrecked off Cornwall, everything being lost in her, and all the crew, save five or six men. On the earl's ship, contrary winds and gales delayed them so greatly that their water failed; they were reduced to three spoonfuls of vinegar apiece at each meal; this state of affairs lasting fourteen days, except what water they could collect from rain and hail-storms. "Yet was that rain so intermingled with the spray of the foaming sea, in that extreme storm, that it could not be healthful: yea, some in their extremity of thirst drank themselves to death with their cans of salt water in their hands." Some ten or twelve perished on each of as many consecutive nights, and the storm was at one time so violent that the ship was almost torn to pieces; "his lordship's cabin, the dining-room, and the half deck became all one," and he was obliged to seek a lodging in the hold. The earl, however, constantly encouraged the men, and the small stock of provisions was distributed with the greatest

* Sir William Monson: Churchill's "Collection of Voyages."

equality; so at last they reached a haven on the west coast of Ireland, where their sufferings ended. On this voyage they had taken thirteen prizes. The Mexican prize which had been wrecked would have added £100,000 to the profits of the venture, but even with this great deduction, the earl had been doubly repaid for his outlay.

The earl's third expedition was a failure, but the fourth resulted in the capture of the *Madre de Dios*, one of the largest carracks belonging to the Portuguese crown. In this, however, some of Raleigh's and Hawkins' ships had a share. Captain Thomson, who came up with her first, "again and again delivered his peals as fast as he could fire and fall astern to load again, thus hindering her way, though somewhat to his own cost, till the others could come up" Several others worried the carrack, until the earl's ships came up about eleven at night. Captain Norton had no intention of boarding the enemy

THE EARL OF CUMBERLAND AND THE "MADRE DE DIOS."

till daylight, if there had not been a cry from one of the ships royal, then in danger, "An you be men, save the queen's ship!" Upon this the carrack was boarded on both sides. A desperate struggle ensued, and it took an hour and a half before the attacking parties succeeded in getting possession of the high forecastle, "so brave a booty making the men fight like dragons." The ship won, the boarders turned to pillage, and while searching about with candles, managed to set fire to a cabin containing some hundreds of cartridges, very nearly blowing up the ship. The hotness of the action was evidenced by the number of dead and dying who strewed the carrack's decks, "especially," says the chronicler, "about the helm; for the greatness of the steerage requiring the labour of twelve or fourteen men at once, and some of our ships beating her in at the stern with their ordnance, oftentimes with one shot slew four or five labouring on either side of the helm; whose room being still furnished with fresh supplies, and our artillery still playing upon them with continual volleys, it could not be but that much blood should be shed in that place." For the times, the prisoners were treated with great humanity, and surgeons were sent on board to dress their wounds. The captain, Don Fernando de Mendoza, was

"a gentleman of noble birth, well stricken in years, well spoken, of comely personage, of good stature, but of hard fortune. Twice he had been taken prisoner by the Moors and ransomed by the king; and he had been wrecked on the coast of Sofala, in a carrack which he commanded, and having escaped the sea danger, fell into the hands of infidels ashore, who kept him under long and grievous servitude." The prisoners were allowed to carry off their own valuables, put on board one of Cumberland's ships, and sent to their own country. Unfortunately for them, they again fell in with other English cruisers, who robbed them without mercy, taking from them 900 diamonds and other valuable things. About 800 negroes on board were landed on the island of Corvo. Her cargo consisted of jewels, spices, drugs, silks, calicoes, carpets, canopies, ivory, porcelain, and innumerable curiosities; it was estimated to amount to £150,000 in value, and there was considerable haggling over its division, and no little embezzlement; the queen had a large share of it, and Cumberland netted £36,000. The carrack created great astonishment at Dartmouth by her dimensions, which for those days were enormous. She was of about 1,600 tons burden, and 165 feet long; she was of "seven several stories, one main orlop, three close decks, one forecastle (of great height) and a spar deck of two floors apiece." Her main-mast was 125 feet in height, and her main-yard 105 feet long. "Being so huge and unwieldly a ship," says Purchas, "she was never removed from Dartmouth, but there laid up her bones."

In 1594 the earl set forth on his eighth voyage, with three ships, a caravel, and a pinnace, furnished at his own expense, with the help of some adventurers. Early in the voyage they descried a great Indian ship, whose burden they estimated at 2,000 tons. Her name was the *Cinco Chagas* (the Five Wounds), and her fate was as tragical as her name. She had on board a number of persons who had been shipwrecked in three vessels, which, like herself, had been returning from the Indies. When she left Mozambique for Europe, she had on board 1,400 persons, an enormous number for those days; on the voyage she had encountered terrible gales, and after putting in at Loanda for water and supplies, and shipping many slaves, a fatal pestilence known by the name of the "mal de Loanda," carried off about half the crew. The captain wished to avoid the Azores, but a mutiny had arisen among the soldiers on board, and he was forced to stand by them, and by this means came into contact with the Earl of Cumberland's squadron off Fayal. The Portuguese had pledged themselves to the ship at all hazards, and to perish with her in the sea, or in the flames, rather than yield so rich a prize to the heretics. Cumberland's ships, after harassing the carrack on all sides, ranged up against her; twice was she boarded, and twice were the assailants driven out. A third time the privateers boarded her, one of them bearing a white flag; he was the first of the party killed, and when a second hoisted another flag at the poop it was immediately thrown overboard. The English suffered considerably, more especially among the officers. Cumberland's vice-admiral, Antony, was killed; Downton, the rear-admiral, crippled for life; and Cave, who commanded the earl's ship, mortally wounded. The privateers seem, in the heat of action, almost to have forgotten the valuable cargo on board, and to have aimed only at destroying her. "After many bickerings," says the chronicler, "fireworks flew about interchangeably; at last the vice-admiral, with a culverin shot at hand, fired the carrack in her stern, and the rear-admiral

her forecastle, * * * * then flying and maintaining their fires so well with their small shot that many which came to quench them were slain." The fire made rapid headway, and P. Frey Antonio, a Franciscan, was seen with a crucifix in his hand, encouraging the poor sailors to commit themselves to the waves and to God's mercy, rather than perish in the flames. A large number threw themselves overboard, clinging to such things as were cast into the sea. It is said that the English boats, with one honourable exception, made no efforts to save any of them; it is even stated that they butchered many in the water. According to the English account there were more than 1,100 on board the carrack, when she left Loanda, of whom only fifteen were saved! Two ladies of high rank, mother and daughter—the latter of whom was going home to Spain to take possession of some entailed property—when they saw there was no help to be expected from the privateers, fastened themselves together with a cord, and committed themselves to the waves; their bodies were afterwards cast ashore on Fayal, still united, though in the bonds of death.

The earl afterwards built the *Scourge of Malice*, a ship of 800 tons, and the largest yet constructed by an English subject, and in 1597 obtained letters patent authorising him to levy sea and land forces. Without royal assistance, he gathered eighteen sail. This expedition, although it worried and impoverished the Spaniards, was not particularly profitable to the earl. He took Puerto Rico, and then abandoned it, and did not, as he expected, intercept either the outward-bound East Indiamen, who, indeed, were too frightened to venture out of the Tagus that year, or the homeward-bound Mexican fleet. This was Cumberland's last expedition, and no other subject ever undertook so many at his own cost.

The Elizabethan age was otherwise so glorious that it is painful to have to record the establishment of the slave-trade—a serious blot on the reign—one which no Englishman of to-day would defend, but which was then looked upon as perfectly legitimate. John Hawkins (afterwards Sir John) was born at Plymouth, and his father had long been a well-esteemed sea-captain, the first Englishman, it is believed, who ever traded to the Brazils. The young man had gained much renown by trips to Spain, Portugal, and the Canaries, and having "grown in love and favour" with the Canarians, by good and upright dealing, began to think of more extended enterprises. Learning that "negroes were very good merchandise in Hispaniola, and that store of them might easily be had upon the coast of Guinea," he communicated with several London ship-owners, who liked his schemes, and provided him in large part with the necessary outfit. Three small vessels were provided—the *Solomon*, of 120 tons, the *Swallow*, of 100, and the *Jonas*, of forty. Hawkins left England in October, 1562, and proceeding to Sierra Leone, "got into his possession, partly by the sword and partly by other means, to the number of 300 negroes at the least, besides other merchandise which that country yieldeth." At the port of Isabella, Puerto de Plata, and Monte Christo, he made sale of the slaves to the Spaniards, trusting them "no farther than by his own strength he was able to master them." He received in exchange, pearls, ginger, sugar, and hides enough, not merely to freight his own vessels, but two other hulks, and thus "with prosperous success, and much gain to himself and the aforesaid adventurers, he came home, and arrived in September, 1563."

The second expedition was on a larger scale, and included a queen's ship of 700 tons. Hawkins arriving off the Rio Grande, could not enter it for want of a pilot, but he proceeded to Sambula, one of the islands near its mouth, where he "went every day on shore to take the inhabitants, with burning and spoiling their towns," and got a number of slaves. Flushed with easy success, Hawkins was persuaded by some Portuguese to attack a negro town called Bymeba, where he was informed there was much gold. Forty of his men were landed, and they dispersing, to secure what booty they could for themselves, became an easy prey to the negroes, who killed seven, including one of the captains, and wounded twenty-seven. After a visit to Sierra Leone, which he left quickly on account of the illness and death of some of his men, he proceeded to the West Indies, where he carried matters with a high hand at the small Spanish settlements, at which very generally the poor inhabitants had been forbidden to trade with him by the viceroy, then stationed at St. Domingo. To this he replied at Borburata, that he was in need of refreshment and money also, "without which he could not depart. Their princes were in amity one with another; the English had free traffic in Spain and Flanders; and he knew no reason why they should not have the like in the King of Spain's dominions. Upon this the Spaniards said they would send to their governor, who was three-score leagues off; ten days must elapse before his determination could arrive; meantime he might bring his ships into the harbour, and they would supply him with any victuals he might require." The ships sailed in and were supplied, but Hawkins, "advising himself that to remain there ten days idle, spending victuals and men's wages, and perhaps, in the end, receive no good answer from the governor, it were mere folly," requested licence to sell certain lean and sick negroes, for whom he had little or no food, but who would recover with proper treatment ashore. This request, he said, he was forced to make, as he had not otherwise wherewith to pay for necessaries supplied to him. He received a licence to sell thirty slaves, but now few showed a disposition to buy, and where they did, came to haggle and cheapen. Hawkins made a feint to go, when the Spaniards bought some of his poorer negroes, "but when the purchasers paid the duty and required the customary receipt, the officer refused to give it, and instead of carrying the money to the king's account, distributed it to the poor 'for the love of God.'" The purchasers feared that they might have to pay the duty a second time, and the trade was suspended till the governor arrived, on the fourteenth day. To him Hawkins told a long-winded story, concluding by saying that, "it would be taken well at the governor's hand if he granted a licence in this case, seeing that there was a great amity between their princes, and that the thing pertained to our queen's highness." The petition was taken under consideration in council, and at last granted. The licence of thirty ducats demanded for each slave sold did not, however, meet Hawkins' views, and he therefore landed 100 men well armed, and marched toward the town. The poor townspeople sent out messengers to know his demands, and he requested that the duty should be 7½ per cent., and mildly threatened that if they would not accede to this "he would displease them." Everything was conceded, and Hawkins obtained the prices he wanted. Fancy a modern merchant standing with an armed guard, pistol in hand, over his customers, insisting that he would sell what he liked and at his own price!

But all this is nothing to what happened at Rio de la Hacha. There he spoke of his quiet traffic (!) at Borburata, and requested permission to trade there in the same manner. He was told that the viceroy had forbidden it, whereupon he threatened them that he must either have the licence or they "stand to their own defence." The licence was granted, but they offered half the prices which he had obtained at Borburata, whereupon he told them, insultingly, that "seeing they had sent him this to his supper, he would in the morning bring them as good a breakfast."* Accordingly, early next day he fired off a culverin, and prepared to land with 100 men, "having light ordnance in his great boat, and in the other boats double bases in their noses." The townsmen

ON THE COAST OF CORNWALL.

marched out in battle array, but when the guns were fired fell flat on their faces, and soon dispersed. Still, about thirty horsemen made a show of resistance, their white leather targets in one hand and their javelins in the other, but as soon as Hawkins marched towards them they sent a flag of truce, and the treasurer, "in a cautious interview with this ugly merchant," granted all he asked, and the trade proceeded. They parted with a show of friendship, and saluted each other with their guns, the townspeople "glad to be sped of such traders."

On the return voyage, contrary winds prevailed, "till victuals scanted, so that they were in despair of ever reaching home, had not God provided for them better than their deserving." They arrived at Padstow, in Cornwall, "with the loss," says the narrative printed in Hakluyt's collection, "of twenty persons in all the voyage, and with great profit to the venturers, as also to the whole realm, in bringing home both gold,

* Hakluyt.

silver, pearls, and other jewels in great store. His name, therefore, be praised for evermore. Amen!" They did not consider that they had been engaged in a most iniquitous traffic, nor was it, indeed, the opinion of the times. "Hawkins," says Southey, "then, is not individually to be condemned, if he looked upon dealing in negroes to be as lawful as any other trade, and thought that force or artifice might be employed for taking them with as little compunction as in hunting, fishing, or fowling." He had a coat of arms and crest bestowed upon him and his posterity. Among other devices it bore "a demi-Moor, in his proper colour, bound and captive, with annulets on his arms," &c.

On his next expedition for slaving purposes he had six vessels. Herrera* says that two Portuguese had offered to conduct this fleet to a place where they might load their vessels with gold and other riches, and that the queen had been so taken with the idea that she had supplied Hawkins with two ships, he and his brother fitting out four others and a pinnace. The force on board amounted to 1,500 soldiers and sailors, who were to receive a third of the profits. When the expedition was ready, the Portuguese deserted from Plymouth, and went to France, but as the cost of the outfit had been incurred, it was thought proper to proceed. Hawkins obtained, after a great deal of trouble, less than 150 slaves between the Rio Grande and Sierra Leone. At this juncture a negro king, just going to war with a neighbouring tribe, sent to the commander asking his aid, promising him all the prisoners who should be taken. This was a tempting bait, and 120 men were sent to assist the coloured warrior. They assaulted a town containing 8,000 inhabitants, strongly paled and well defended, and the English losing six men, and having a fourth of their number wounded, sent for more help; "whereupon," says Hawkins, "considering that the good success of this enterprise might highly further the commodity of our voyage, I went myself; and with the help of the king of our side, assaulted the town both by land and sea, and very hardly, with fire (their houses being covered with dry palm-leaves), obtained the town, and put the inhabitants to flight, where we took 250 persons, men, women, and children. And by our friend, the king of our side, there were taken 600 prisoners, whereof we hoped to have had our choice; but the negro (in which nation is seldom or never found truth) meant nothing less, for that night he removed his camp and prisoners, so that we were fain to content us with those few that we had gotten ourselves." They had obtained between 400 and 500, a part of which were speedily sold as soon as he reached the West Indies. At Rio de la Hacha, "from whence came all the pearls," the treasurer would by no means allow them to trade, or even to water the ships, and had fortified the town with additional bulwarks, well manned by harquebusiers. Hawkins again enforced trade, by landing 200 men, who stormed their fortifications, at which the Spaniards fled. "Thus having the town," says Hawkins, "with some circumstance, as partly by the Spaniards' desire of negroes, and partly by friendship of the treasurer, we obtained a secret trade, whereupon the Spaniards resorted to us by night, and bought of us to the number of 200 negroes."

This voyage ended most disastrously. Passing by the west end of Cuba, they

* "Historia General."

encountered a terrific storm, which lasted four days, and they had to cut down all the "higher buildings" of the *Jesus*, their largest ship; her rudder, too, was nearly disabled, and she leaked badly. They made for the coast of Florida, but could find no suitable haven. "Thus, being in great despair, and taken with a new storm, which continued other three days," Hawkins made for St. Juan de Ulloa, a port of the city of Mexico. They took on their way three ships, having on board 100 passengers, and soon reached the harbour. The Spaniards mistook them for a fleet from Spain, which was expected about that time, and the chief officers came aboard to receive the despatches. "Being deceived of their expectation," they were somewhat alarmed, but finding that Hawkins wanted nothing but provisions, "were recomforted." "I found in the same port," says Hawkins, "twelve ships, which had in them, by report, £200,000 in gold and silver; *all of which being in my possession*, with the king's island, as also the passengers before in my way thitherward stayed, I set at liberty, without the taking from them the weight of a groat." This savours rather of impudent presumption, for he was certainly not in good condition to fight at that period. Next day the Spanish fleet arrived outside, when Hawkins again rode the high horse, by giving notice to the general that he would not suffer them to enter the port until conditions had been made for their safe-being, and for the maintenance of peace. The fleet had on board a new viceroy, who answered amicably, and desired him to propose his conditions. Hawkins required not merely victuals and trade, and hostages to be given on both sides, but that the island should be in his possession during his stay, with such ordnance as was planted there, and that no Spaniard might land on the island with any kind of weapon. These terms the viceroy "somewhat disliked" at first, nor is it very surprising that he did; but at length he pretended to consent, and the Spanish ships entered the port. In a few days it became evident that treachery was intended, as men and weapons in quantities were being transferred from and to the Spanish ships, and new ordnance landed on the island. Hawkins sent to inquire what was meant, and was answered with fair words; still unsatisfied, he sent the master of the *Jesus*, who spoke Spanish, to the viceroy, and "required to be satisfied if any such thing were or not." The viceroy, now seeing that the treason must be discovered, retained the master, blew his trumpet, and it became evident that a general attack was intended. A number of the English crews ashore were immediately massacred. They attempted to board the *Minion* and *Jesus*, but were kept out, with great loss on both sides. "Now," says Hawkins, "when the *Jesus* and the *Minion* were gotten about two ships' lengths from the Spanish fleet, the fight began so hot on all sides, that, within one hour, the admiral of the Spaniards was supposed to be sunk, their vice-admiral burnt, and one other of their principal ships supposed to be sunk. The Spaniards used their shore artillery to such effect that it cut all the masts and yards of the *Jesus*, and sunk Hawkins' smaller ships, the *Judith* only excepted." It had been determined, as there was little hope to get the *Jesus* away, that she should be placed as a target or defence for the *Minion* till night, when they would remove such of the stores and valuables as was possible, and then abandon her. "As we were thus determining," says Hawkins, "and had placed the *Minion* from the shot of the land, suddenly the Spaniards fired two great ships which were coming directly with us; and having no means to avoid the fire, it bred among the men a

marvellous fear, so that some said, 'Let us depart with the *Minion*;' others said, 'Let us see whether the wind will carry the fire from us.' But, to be short, the *Minion's* men, which had always their sails in readiness, thought to make sure work, and so, without either consent of the captain or master, cut their sail." Hawkins was "very hardly"

SIR JOHN HAWKINS.

received on board, and many of the men of the *Jesus* were left to their fate and the mercy of the Spaniards, "which," he says, "I doubt was very little." Only the *Minion* and the *Judith* escaped, and the latter deserted that same night. Beaten about in unknown seas for the next fourteen days, hunger at last enforced them to seek the land; "for hides were thought very good meat; rats, cats, mice, and dogs, none escaped that might be gotten; parrots and monkeys, that were had in great price, were thought then very profitable if they served the turn of one dinner." So starved and worn out were they,

HAWKINS AT ST. JUAN DE ULLOA.

that about a hundred of his people desired to be left on the coast of Tabasco, and Hawkins determined to water there, and then, "with his little remain of victuals," to attempt the voyage home. During this time, while on shore with fifty of his men, a gale arose, which prevented them regaining the ship; indeed, they expected to see it wrecked before their eyes. At last the storm abated, and they sailed for England, the men dying off daily from sheer exhaustion, the pitiful remainder being scarcely able to work the ship. They at last reached the coast of Galicia, where they obtained fresh meat, and putting into Vigo, were assisted by some English ships lying there. Hawkins concludes his narrative as follows:—"If all the miseries and troublesome affairs of this sorrowful voyage should be perfectly and thoroughly written, there should need a painful man with his pen, and as great a time as he had that wrote the lives and deaths of the martyrs."

The *Judith*, which made one of Hawkins's last fleet, was commanded by Francis Drake, a name that was destined to become one of the most famous of the day, and very terrible to the Spaniards. In this last venture he lost all that he had accumulated by earlier voyages, "but a divine, belonging to the fleet, comforted him with the assurance, that having been so treacherously used by the Spaniards, he might lawfully recover in value of the King of Spain, and repair his losses upon him wherever he could." This comfortable doctrine consoled him. "The case," says Fuller, "was clear in sea divinity." Two or three minor voyages he made to gain knowledge of the field of operation, and in the West Indies made some little money "by playing the seaman and the pirate." On May 24th, 1572, he sailed from Plymouth, in the *Pascha*, of seventy tons, his brother accompanying him in the *Swan*, of only twenty-five tons; they had three pinnaces on board, taken to pieces and stowed away. The force with which he was to revenge himself on the Spanish monarch, numbered seventy-three men and boys, all told. In the Indies he was joined by Captain Rowse, of an Isle of Wight bark, with thirty-eight men on board. Let us see how they sped.

It was known that there was great treasure at Nombre de Dios, and thither the little squadron shaped its course. The town was unwalled, and they entered without difficulty, but the Spaniards received them in the market-place with a volley of shot. Drake returned the greeting with a flight of arrows, "the best ancient English complement, but in the attack received a wound in his leg, which he dissembled, "knowing that if the general's heart stoop, the men's will fall." He arrived at the treasury-house, which was full of silver bars, and while in the act of ordering his men to break it open, fainted from the loss of blood, and his men, binding up the wound, forcibly took him to his pinnace. It was time, for the Spaniards had discovered their weakness, and could have overcome them. Rather disappointed here, Drake made for Carthagena, and took several vessels on his way. He learned from some escaped negro slaves, settled on the isthmus of Darien, that the treasure was brought from Panama to Nombre de Dios upon mules, a party of which he might intercept. Drake's leg having healed, he was led to an eminence on that isthmus, where, from a great tree, both the Pacific and Atlantic might be seen. Steps had been cut in the trunk of this huge tree, and at the top "a convenient arbour had been made, wherein twelve men might sit." Drake saw from its summit that great Southern Ocean (the Pacific Ocean) of which he had heard something already, and "being inflamed with

ambition of glory and hopes of wealth, was so vehemently transported with desire to navigate that sea, that falling down there upon his knees, he implored the divine assistance, that he might at some time or other sail thither, and make a perfect discovery of the same."* Drake was the first Englishman to gaze on its waters.

On the isthmus, Drake encountered an armed party of Spaniards, but put them to flight, and destroyed merchandise to the value of 200,000 ducats. Soon after he heard "the sweet music of the mules coming with a great noise of bells," and when the trains came up, he found they had no one but the muleteers to protect them. It was easy work to take as much silver as they would, but more difficult to transport it to the coast. They, in consequence, buried several *tons*, but one of his men, who fell into the hands of the Spaniards, was compelled by torture to reveal the place, and when Drake's people returned for a second load it was nearly all gone. When they returned to the coast where the pinnaces should have met them, they were not to be seen, but in place, seven Spanish pinnaces which had been searching the coast. Drake escaped their notice, and constructing a raft of the trees which the river brought down, mounted a biscuit-sack for sail, and steered it with an oar made from a sapling, out to sea, where they were constantly up to their waists in water. At last they caught sight of their own pinnaces, ran the raft ashore, and travelled by land round to the point off which they were laying. They then embarked their comrades with the treasure, and rejoined the ship. One of their negro allies took a great fancy to Drake's sword, and when it was presented to him, desired the commander to accept four wedges of gold. "Drake accepted them as courteously as they were proffered, but threw them into the common stock, saying, it was just that they who bore part of the charge in setting him to sea, should enjoy their full proportion of the advantage at his return." Drake made the passage home to the Scilly Isles in the wonderfully short period of twenty-three days. Arriving at Plymouth on a Sunday, the news was carried into the church during sermon time, and "there remained few or no people with the preacher," for Drake was already a great man and a hero in the eyes of all Devon.

John Oxenham, who had served with Drake in the varied capacities of soldier, sailor, and cook, was very much in the latter's confidence. Drake had particularly spoken of his desire to explore the Pacific, and Oxenham in reply, had protested that "he would follow him by God's grace." The latter, who "had gotten among the seamen the name of captain for his valour, and had privily scraped together good store of money," becoming impatient, determined to attempt the enterprise his late master had projected. He reached the isthmus to find that the mule trains conveying the silver were now protected by a convoy of soldiers, and he determined on a bold and novel adventure. "He drew his ship aground in a retired and woody creek, covered it up with boughs, buried his provisions and his great guns, and taking with him two small pieces of ordnance, went with all his men and six Maroon guides about twelve leagues into the interior, to a river which discharges itself into the South Sea. There he cut wood and built a pinnace, 'which was five-and-forty feet by the keel;'" embarked in it, and secured for himself the honour of

* Camden. Balboa, the discoverer of the Pacific, had expressed the same feelings in almost the same locality.

having been the first Englishman to sail over the waters of the blue Pacific. In this pinnace he went to the Pearl Islands, and lay in wait for vessels. He was successful in capturing a small bark, bringing gold from Quito, and scarcely a week later, another with silver from Lima. He also obtained a few pearls on the islands.

So far, fortune had followed Oxenham, and to his own want of caution is due the fact that this prosperous state of affairs was soon reversed. He had dismissed his prizes

OXENHAM EMBARKING ON THE PACIFIC.

when near the mouth of the river, and had allowed them to perceive where he was entering. The alarm was soon given; first, indeed, by some negroes who hastened to Panama. Juan de Ortega was immediately dispatched with 100 men, besides negro rowers, in four barks. After entering the river, a four days' search rewarded him by the discovery of the pinnace with six Englishmen on board, who leaped ashore and ran for dear life; one only was killed at this juncture. Ortega discovered in the woods the hut in which Oxenham had concealed the treasure, and removed it to his barks. Meantime, Oxenham, whose men had been disputing over the division of spoils, had been to a distance for the purpose of inducing some of the Maroon negroes to act as carriers, and returning with them, met the men who had escaped from the pinnace, and those who were fleeing from the hut. "The loss of their booty at once completed their reconcilement; he promised larger shares if they

should succeed in re-capturing it; and marched resolutely in quest of the Spaniards, relying upon the Maroons as well as upon his own people." But Ortega and his men were experienced in bush-fighting, and they succeeded in killing eleven Englishmen, and five negroes, and took seven of Oxenham's party prisoners. He, with the remnant of his party, went back to search for his hidden ship; it had been removed by the Spaniards. And now the latter sent 150 men to hunt the Englishmen out, while those whom they failed to take were delivered up by the natives. Oxenham and two of his officers were taken to Lima and executed; the remainder suffered death at Panama.

The greatest semi-commercial and piratical voyage of this epoch is undoubtedly that of Drake, who reached the South Seas* *viâ* the Straits of Magellan—the third recorded attempt, and the first made by an Englishman—and was the first English subject to circumnavigate the globe. Elizabeth gave it her secret sanction, and when Drake was introduced to her court by Sir Christopher Hatton, presented him a sword, with this remarkable speech: "We do account that he which striketh at thee, Drake, striketh at us!" The expedition, fitted at his own cost, and that of various adventurers, comprised five vessels; the largest, his own ship, the *Pelican*, being only 100 tons. His whole force consisted of "164 men, gentlemen, and sailors; and was furnished with such plentiful provision of all things necessary as so long and dangerous a voyage seemed to require." The frames of four pinnaces were taken, to be put together as occasion might require. "Neither did he omit, it is said, to make provision for ornament and delight; carrying to this purpose with him expert musicians, rich furniture (all the vessels for his table, yea, many belonging to the cook-room, being of pure silver) with divers shows of all sorts of curious workmanship, whereby the civility and magnificence of his native country might, among all nations whither he should come, be the more admired."† Few of his companions knew at the outset the destination of his voyage; it was given out that they were bound merely for Alexandria.

The expedition sailed on November 15th, 1577, from Plymouth, and immediately encountered a storm so severe that the vessels came near shipwreck, and were obliged to put back and refit. When they had again started under fairer auspices, Drake gave his people some little information as to his proposed voyage, and appointed an island off the coast of Barbary as a rendezvous in case of separation at sea, and subsequently Cape Blanco, where he mustered his men ashore and put them through drills and warlike exercises. Already, early in January, he had taken some minor Spanish prizes, and a little later, off the island of Santiago, chased a Portuguese ship, bound for Brazil, "with many passengers, and among other commodities, good store of wine." Drake captured and set the people on one of his smaller pinnaces, giving them their clothes, some provisions, and one butt of wine, letting them all go except their pilot. The provisions and wine on board the prize proved invaluable to the expedition. From the Cape de Verde Islands they were nine weeks out of sight of land, and before they reached the coast of Brazil, when near the equator, "Drake, being very careful of his men's health, let every one of them blood with

* Whenever the South Seas are mentioned in these early records, they must be understood to mean the South Pacific, and, indeed, sometimes portions of the North Pacific. The title still clings to the Polynesian Islands.

† Burney's "Voyages."

his own hands." On nearing the Brazilian coast, the inhabitants "made great fires for a sacrifice to the devils, about which they use conjurations (making heaps of sand and other ceremonies), that when any ships shall go about to stay upon their coast, not only sands may be gathered together in shoals in every place, but also that storms and tempests may arise, to the casting away of ships and men." Near the Plata they slaughtered large numbers of seals, thinking them "good and acceptable meat both as food for the present, and as a supply of provisions for the future." Further south, they found stages constructed on the rocks by the natives for drying the flesh of ostriches; their thighs were as large as "reasonable legs of mutton." At a spot which Drake named Seal Bay, they remained over a fortnight. Here they "made new provisions of seals, whereof they slew to the number of from 200 to 300 in the space of an hour." Some little traffic ensued with the natives, all of whom were highly painted, some of them having the whole of one side, from crown to heel, painted black, and the other white. "They fed on seals and other flesh, which they ate nearly raw, casting pieces of four or six pounds' weight into the fire, till it was a little scorched, and then tearing it in pieces with their teeth like lions." At the sound of Drake's band of trumpeters they showed great delight, dancing on the beach with the sailors. They were described as of large stature. "One of these giants," said the chaplain of the expedition, "standing with our men when they were taking their morning draughts, showed himself so familiar that he also would do as they did; and taking a glass in his hand (being strong canary wine), it came no sooner to his lips, than it took him by the nose, and so suddenly entered his head, that he was so drunk, or at least so overcome, that he fell right down, not able to stand; yet he held the glass fast in his hand, without spilling any of the wine; and when he came to himself, he tried again, and tasting, by degrees got to the bottom. From which time he took such a liking to the wine, that having learnt the name, he would every morning come down from the mountains with a mighty cry of 'Wine! wine! wine!' continuing the same until he arrived at the tent."*

After some trouble caused by the separation of the vessels, the whole fleet arrived safely at the "good harborough called by Magellan Port Julian," where nearly the first sight they met was a gibbet, on which the Portuguese navigator had executed several mutinous members of his company, some of the bones of whom yet remained. Drake himself was to have trouble here. At the outset the natives appeared friendly, and a trial of skill in shooting arrows resulted in an English gunner exceeding their efforts, at which they appeared pleased by the skill shown. A little while after another Indian came, "but of a sourer sort," and one Winter, prepared for another display of archery, unfortunately broke the bow-string when he drew it to its full length. This disabused the natives, to some extent, of the superior skill of the English, and an attack was made, apparently incited by the Indian just mentioned. Poor Winter received two wounds, and the gunner coming to the rescue with his gun missed fire, and was immediately shot "through the breast and out at back, so that he fell down stark dead." Drake assembled his men, ordering them to cover themselves with their targets, and march on the assailants,

* Narrative of Chaplain Fletcher, quoted by Burney.

instructing them to break the arrows shot at them, noting that the savages had but a small store. "At the same time he took the piece which had so unhappily missed fire, aimed at the Indian who had killed the gunner, and who was the man who had begun the fray, and shot him in the belly. An arrow wound, however severe, the savage would have borne without betraying any indication of pain; but his cries, upon being thus wounded, were so loud and hideous, that his companions were terrified and fled, though many were then hastening to their assistance. Drake did not pursue them, but hastened to convey Winter to the ship for speedy help; no help, however, availed, and he died on the second day. The gunner's body, which had been left on shore, was sent for the next day; the savages, meantime, had stripped it, as if for the sake of curiously inspecting it; the clothes they had laid under the head, and stuck an English arrow in the right eye for mockery. Both bodies were buried in a little island in the harbour."* No farther attempt was made to injure the English, who remained two months in the harbour, but friendly relations were not established. A more serious event was to follow.

One Master Doughtie was suspected and accused of something worse than ordinary mutiny or insubordination. It is affirmed in a history of the voyage published under the name of Drake's nephew, that Doughtie had embarked on the expedition for the distinct purpose of overthrowing it for his own aggrandisement, to accomplish which he intended to raise a mutiny, and murder the admiral and his most attached followers. Further, it is stated, that Drake was informed of this before he left Plymouth; but that he would not credit "that a person whom he so dearly loved would conceive such evil purposes against him." Doughtie had been put in possession of the Portuguese prize, but had been removed on a charge of peculation, and it is likely that "resentment, whether for the wrongful charge, or the rightful removal, might be rankling in him;" at all events, his later conduct, and mutinous words, left no alternative to Drake but to examine him before a properly constituted court, and he seems to have most reluctantly gone even to this length.† He was "found guilty by twelve men after the English manner, and suffered accordingly." "The most indifferent persons in the fleet," says Southey, "were of opinion that he had acted seditiously, and that Drake cut him off because of his emulous designs. The question is, how far those designs extended? He could not aspire to the credit of the voyage without devising how to obtain for himself some more conspicuous station in it than that of a gentleman volunteer; if he regarded Drake as a rival, he must have hoped to supplant, or at least to vie with him; and in no other way could he have vied with him but by making off with one of the ships, and trying his own fortune" (which was afterwards actually accomplished by others). Doughtie was condemned to death. "And he," says a writer, quoted by Hakluyt, "seeing no remedy but patience for himself, desired before his death to receive the communion; which he did at the hands of Master Fletcher, our minister, and our general himself accompanied him in that holy action;

* Various authorities cited by Southey.

† The various slanders thrown on Drake's name in connection with this occurrence seem to have had no foundation in fact. Some of his enemies averred that he sailed from England with instructions from the Earl of Leicester to get rid of Doughtie at the first opportunity, because the latter had reported that Essex had been poisoned by the former's means. But Drake appears to have been really attached to him.

which being done, and the place of execution made ready, he, having embraced our general, and taken his leave of all the company, with prayer for the queen's majesty and our realm, in quiet sort laid his head to the block, where he ended his life." One account says that after partaking of the communion, Drake and Doughtie dined at the same table together, "as cheerfully, in sobriety, as ever in their lives they had done; and taking their leave by drinking to each other, as if some short journey only had been in hand." A provost marshal had made all things ready, and after drinking this funereal stirrup-cup, Doughtie went to the block. Drake subsequently addressed the whole company, exhorting them to unity and subordination, asking them to prepare reverently for a special celebration of the holy communion on the following Sunday.

And now, having broken up the Portuguese prize on account of its unseaworthiness, and rechristened his own ship, the *Pelican*, into the *Golden Hinde*, Drake entered the Straits now named after Magellan, though that navigator termed them the Patagonian Straits, because he had found the natives wearing clumsy shoes or sandals: *patagon* signifying in Portuguese a large, ill-shaped foot. The land surrounding the straits is high and mountainous, and the water generally deep close to the cliffs. "We found the strait," says the first narrator, "to have many turnings, and as it were, shuttings up, as if there were no passage at all." Drake passed through the tortuous strait in seventeen days. Clift, one of the historians of the expedition, whose narrative is preserved in Hakluyt's collection of "Voyages," says of the penguins there, three thousand of which were killed in less than a day, "We victualled ourselves with a kind of fowl which is plentiful on that isle (St. George's in the Straits), and whose flesh is not unlike a fat goose here in England. They have no wings, but short pinions, which serve their turn in swimming; their colour is somewhat black, mixed with white spots under their belly, and about their necks. They walk so upright that, afar off, a man would take them to be little children. If a man approach anything near them, they run into holes in the ground (which be not very deep) whereof the island is full, so that to take them we had staves with hooks fast to the end, wherewith some of our men pulled them out, and others being ready with cudgels did knock them on the head, for they bite so cruelly with their crooked bills, that none of us were able to handle them alive."

Drake's vessels, separated by a gale, were driven hither and thither. One of them, the *Marigold*, must have foundered, as she was never again heard of. The two remaining ships sought shelter in a dangerous rocky bay, from which the *Golden Hinde* was driven to sea, her cable having parted. The other vessel, under Captain Winter's command, regained the straits, and "anchoring there in an open bay, made great fires on the shore, that if Drake should put into the strait also, he might discover them." Winter proceeded later up the straits, and anchored in a sound, which he named the Port of Health, because his men, who had been "very sick with long watching, wet, cold, and evil diet," soon recovered on the nourishing shell-fish found there. He, after waiting some time, and despairing of regaining Drake's company, gave over the voyage, and set sail for England, "where he arrived with the reproach of having abandoned his commander."

Drake was now reduced to his own vessel, the *Golden Hinde*, which was obliged

to seek shelter on the coast of Terra del Fuego. The winds again forced him from his anchorage, and his shallop, with eight men on board, and provisions for only one day, was separated from him. The fate of these poor fellows was tragical. They regained the straits, where they caught and salted a quantity of penguins, and then coasted up South America to the Plata. Six of them landed, and while searching for food in the forests, encountered a party of Indians, who wounded all of them with their arrows, and secured four, pursuing the others to the boat. These latter reached the two men in charge, but before they could put off, all were wounded by the natives. They, however, succeeded in reaching an island some distance from the mainland, where two of them died from the injuries received, and the boat was wrecked and beaten to pieces on the

SIR FRANCIS DRAKE.

rocks. The remaining two stopped on the island eight weeks, living on shell-fish and a fruit resembling an orange, but could find no water. They at length ventured to the mainland on a large plank some ten feet in length, which they propelled with paddles; the passage occupied three days. "On coming to land," says Carter, the only survivor, "we found a rivulet of sweet water; when William Pitcher, my only comfort and companion (although I endeavoured to dissuade him) overdrank himself, and to my unspeakable grief, died within half an hour." Carter himself fell into the hands of some Indians, who took pity on him, and conducted him to a Portuguese settlement. Nine years elapsed before he was able to regain his own country.

Meantime Drake was driven so far to the southward, that at length he "fell in with the uttermost part of the land towards the South Pole," or in other words, reached Cape Horn. The storm had lasted with little intermission for over seven weeks. "Drake went ashore, and, sailor-like, leaning over a promontory, as far as he safely could, came back

and told his people how that he had been farther south than any man living." At last the wind was favourable, and he coasted northward, along the American shore, till he reached the island of Mocha, where the Indians appeared at first to be friendly, and brought off potatoes, roots, and two fat sheep, for which they received recompense. But on landing for the purpose of watering the ship, the natives shot at them, wounding every one of twelve men, and Drake himself under the right eye. In this case no attempt was made at retaliation. The Indians doubtless took them for Spaniards. Drake, continuing his voyage, fell in with an Indian fishing from a canoe, who was made to understand their want of provisions, and was sent ashore with presents. This brought off a number of natives with supplies of poultry, hogs, and fruits, while Felipe, one of them who spoke Spanish, informed Drake that they had passed the port of Valparaiso—then an insignificant settlement of less than a dozen Spanish families—where a large ship was lying at anchor. Felipe piloted them thither, and they soon discovered the ship, with a meagre crew of eight Spaniards and four negroes on board. So little was an enemy expected, that as Drake's vessel approached, it was saluted with beat of drum, and a jar of Chili wine made ready for an hospitable reception. But Drake and his men wanted something more than bumpers of wine, and soon boarded the vessel, one of the men striking down the first Spaniard he met, and exclaiming, "*Abaxo perro!*" (Down, dog!). Another of the crew leaped overboard and swam ashore to give an alarm to the town; the rest were soon secured under hatches. The inhabitants of the town fled incontinently, but the spoils secured there were small. The chapel was rifled of its altar-cloth, silver chalice, and other articles, which were handed over to Drake's chaplain; quantities of wine and other provisions were secured. The crew of the prize, with the exception of the Greek pilot, were set ashore, and Drake left with his new acquisition, which when examined at sea was found to contain one thousand seven hundred and seventy jars of wine, sixty thousand pieces of gold, some pearls, and other articles of value. The Indian who had guided them to this piece of good fortune, was liberally rewarded.

At a place called Tarapaca, whither they had gone to water the ship, they found a Spaniard lying asleep, and keeping very bad guard over thirteen bars of silver, worth four thousand ducats. Drake determined to take care of it for him. At a short distance off, they encountered another, who, with an Indian, was driving eight llamas, each carrying a hundredweight of silver. It is needless to say that the llamas were conveyed on board, *plus* the silver. At Arica two ships were found at anchor, one of which yielded forty bars of silver, and the other a considerable quantity of wine. But these were as trifles to that which followed.

Drake had pursued a leisurely course, but in spite of this fact, no intelligence of the pirate's approach had reached Lima. The term "pirate" is used advisedly, for whatever the gain to geographical science afforded by his voyages, their chief aim was spoil, and it mattered nothing whether England was at war with the victims of his prowess or not. A few leagues off Callao harbour (the port of Lima), Drake boarded a Portuguese vessel: the owner agreed to pilot him into Callao, provided his cargo was left him. They arrived at nightfall, "sailing in between all the ships that lay there, seventeen in number," most of which had their sails ashore, for the Spaniards had had, as yet, no

enemies in those waters. They rifled the ships of their valuables, and these included a large quantity of silk and linen, and one chest of silver reales. But they heard that which made their ears tingle, and inflamed their desires for gain; the *Cacafuego*, a great treasure ship, had sailed only a few days before for a neighbouring port. Drake immediately cut the cables of the ships at Lima, and let them drive, that they might not pursue him. "While he was thus employed, a vessel from Panama, laden with Spanish goods, entered the harbour, and anchored close by the *Golden Hinde*. A boat came from the shore to search it; but because it was night, they deferred the search till the morning, and only sent a man on board. The boat then came alongside Drake's vessel, and asked what ship it was. A Spanish prisoner answered, as he was ordered, that it was Miguel Angel's, from Chili. Satisfied with this, the officer in the boat sent a man to board it; but he, when on the point of entering, perceived one of the large guns, and retreated in the boat with all celerity, because no vessels that frequented that port, and navigated those seas, carried great shot." The crew of the Panama ship took alarm when they observed the rapid flight of the man, and put to sea. The *Hinde* followed her, and the Spanish crew abandoned their ship, and escaped ashore in their boat. The alarm had now been given in Lima, and the viceroy dispatched two vessels in pursuit, each having two hundred men on board, but no artillery. The Spanish commander, however, showed no desire to tackle Drake, and he escaped, taking shortly afterwards three tolerable prizes, one of which yielded forty bars of silver, eighty pounds' weight of gold, and a golden crucifix, "set with goodly great emeralds." One of the men having secreted two plates of gold from this prize, and denied the theft, was immediately hanged.

But it was the *Cacafuego* that Drake wanted, and after crossing the line he promised to give his own chain of gold to the first man who should descry her. On St. David's Day, the coveted prize was discovered from the top, by a namesake of the commander, one John Drake. All sail was set, but an easy capture was before them; for the Spanish captain, not dreaming of enemies in those latitudes, slackened sail, in order to find out what ship she was. When they had approached near enough, Drake hailed them to strike, which being refused, "with a great piece he shot her mast overboard, and having wounded the master with an arrow, the ship yielded." Having taken possession, the vessels sailed in company far out to sea, when they stopped and lay by. She proved a prize indeed: gold and silver in coin and bars, jewels and precious stones amounting to three hundred and sixty thousand pieces of gold were taken from her. The silver alone amounted to a value in our money of £212,000. It is stated that Drake called for the register of the treasure on board, and wrote a receipt for the amount! The ship was dismissed, and Drake gave the captain a letter of safe conduct, in case she should fall in with his consorts. This, as we know, was impossible.

Drake's plain course now was to make his way home, and he wisely argued that it would be unsafe to attempt the voyage by the route he had come, as the Spaniards would surely attack him in full force, the whole coast of Chili and Peru being aroused to action. He conceived the bold notion of rounding North America: in other words, he proposed to make that passage which has been the great dream of Arctic explorers, and which has only, as we shall hereafter see, been once made (and that in a very partial sense) by Franklin and

M'Clure. His company agreed to his views: firstly, to re-fit, water, and provision the ship in some convenient bay; "thenceforward," says one of them, "to hasten on our intended journey for the discovery of the said passage, through which we might with joy return to our longed homes." They sailed for Nicaragua, near the mainland of which they found a small island with a suitable bay, where they obtained wood, water, and fish. A small prize was taken while there, having on board a cargo of sarsaparilla, which they disdained, and butter and honey, which they appropriated. Drake now sailed northward, and most

DRAKE'S ARRIVAL AT TERNATE.

undoubtedly reached the grand bay of San Francisco. Californian authorities concede this. The "Drake's Bay" of the charts is an open roadstead, and does not answer the descriptions given of the great navigator's visit. He had peaceful interviews with the natives, and took possession, in the fashion of those days, of the country, setting up a monument of the queen's "right and title to the same, namely, a plate nailed upon a fair great post, whereupon was engraven her Majesty's name, the day and year of our arrival there, . . . together with her highness's picture and arms in a piece of *sixpence* (!) of current English money under the plate, where under also was written the name of our general." History does not tell us the fate of that sixpence, but the title, New Albion, bestowed on the country by Drake, remained on the maps half way into this century, or just before the discovery of gold in California. The natives regarded the English with superstitious awe,

A WRECK ASHORE.

and could not be prevented from offering them sacrifices, "with lamentable weeping, scratching, and tearing the flesh from their faces with their nails, whereof issued abundance of blood. "But we used," says the narrator quoted by Hakluyt, "signs to them of disliking this, and stayed their hands from force, and directed them upwards to the living God, whom only they ought to worship." After remaining there five weeks, Drake took his departure, and the natives watched the ships sadly as they sailed, and kept fires burning on the hill-tops as long as they continued in sight. "Good store of seals and birds" were taken from the Farralone Islands. Many an egg has the writer eaten, laid by the descendants of those very birds: they are supplied in quantities to the San Francisco markets. Drake's attempt at the northern passage was now abandoned.

Sixty-eight days was Drake's ship—containing one of the most valuable freights ever held in one bottom—in the open sea, during which time no land was sighted; at the end of this period the Pelew, Philippine, and Molucca Islands were successively reached. At Ternate, Drake sent a velvet cloak as a present to the king, requesting provisions, and that he might be allowed to trade for spices. The king was amiable and well disposed; he sent before him "four great and large canoes, in every one whereof were certain of his greatest states that were about him, attired in white lawn of cloth of Calicut, having over their heads, from the one end of the canoe to the other, a covering of thin perfumed mats, borne up with a frame made of reeds for the same use, under which every one did sit in his order, according to his dignity, to keep him from the heat of the sun. * * * The rest were soldiers which stood in comely order, round about on both sides; without whom sat the rowers in certain galleries, which being three on a side all along the canoes, did lie off from the side thereof three or four yards, one being orderly builded lower than another, in every of which galleries were fourscore rowers. These canoes were furnished with warlike munitions, every man, for the most part, having his sword and target, with his dagger, besides other weapons, as lances, calivers, darts, bows and arrows; also every canoe had a small cast-base (or cannon) mounted at the least one full yard upon a stock set upright." These canoes or galleys were rowed about the ship, those on board doing homage as they passed. The king soon arrived in state, and was received "with a salute of great guns, with trumpets sounding, and such politic display of state and strength as Drake knew it was advisable to exhibit." Many presents were made to the king, who in return sent off provisions of rice, fowls, fruits, sugar-cane, and "imperfect and liquid sugar" (presumably molasses). Next day there was a grand reception ashore; the king, covered with gold and jewels, under a rich canopy embossed with gold, professing great friendship. The fact was that his own father had been assassinated by the Portuguese, and he himself had besieged and taken their Fort St. Paul's, and compelled them to leave it. He was, doubtless, anxious for some alliance which might strengthen his hands against the Portuguese. Drake, however, had no commission, nor desire at that time to engage his country to any such treaty; his principal object now was to get home safely with his treasure. He, however, successfully traded for a quantity of cloves and provisions.

Off Celebes, the *Hinde* became entangled among the shoals, and while running under full sail, suddenly struck on a rock, where she stuck fast. Boats were got out to see whether

an anchor might not be employed to draw the ship off, but the water all round was very deep, no bottom being found. Three tons of cloves, eight guns, and certain stores were thrown overboard, but to no purpose. Fuller says quaintly, that they "threw overboard as much wealth as would break the heart of a miser to think on 't; with much sugar, and packs of spices, making a caudle of the sea round about. Then they betook themselves to their prayers, the best lever at such a dead lift indeed, and it pleased God that the wind, formerly their mortal enemy, became their friend."* To the joy of all, the *Hinde* glided off the rocks, and almost uninjured. On the way home they visited Barateva, Java, the Cape, and Sierra Leone, being singularly fortunate in avoiding the Portuguese and Spanish ships. The *Hinde* arrived safely at Plymouth on September 26th, 1580, having been nearly three years on her eventful voyage. Drake was received with great honour, and was knighted by the queen. She gave orders that his little ship should be laid up at Deptford, and there carefully preserved as a monument of the most remarkable voyage yet made. Elizabeth honoured Drake by banqueting on board, and his fame spread everywhere through the kingdom. The boys of Westminster School set up some Latin verses on the mainmast, of which Southey gives the following free translation—

> "On Hercules' Pillars, Drake, thou may'st *plus ultra* write full well,
> And say, I will in greatness that great Hercules excel."

And again—

> "Sir Drake, whom well the world's end knows, which thou didst compass round,
> And whom both poles of heaven once saw which north and south do bound,
> The stars above will make thee known if men here silent were;
> The sun himself cannot forget his fellow-traveller."

Drake's series of victories over the Spaniards, and the repulse which occurred just before his death are details of history which would fill a volume. He received a sailor's funeral at Puerto Bello, his body being committed to the deep in a leaden coffin, with the solemn service of the English Church, rendered more impressive by volleys of musketry, and the booming of guns from all the fleet. A poet of the day says—

> "The waves became his winding sheet, the waters were his tomb;
> But for his fame the ocean sea was not sufficient room."

No single name in naval history has ever attained the celebrity acquired by Drake. The Spaniards, who called him a dragon, believed that he had dealings with the devil; "that notion," says Southey, "prevented them from feeling any mortification at his successes, * * * and it enhanced their exultation over the failure of his last expedition, which they considered as the triumph of their religion over heresy and magic." The common people in England itself, more especially in the western counties, believed any quantity of fables concerning him, some of them verging on childishness. He had only to cast a chip in the water when it would become a fine vessel. "It was not by his skill as an engineer, and the munificent expenditure of the wealth which he had so daringly obtained, that Drake supplied Plymouth with fresh water; but by mounting his horse,

* Fuller's "Holy State."

riding about Dartmoor till he came to a spring sufficiently copious for his design, then wheeling round, pronouncing some magical words, and galloping back into the town, with the stream in full flow, and forming its own channel at the horse's heels." One of the popular stories regarding him is briefly as follows. When Sir Francis left on one of his long voyages, he told his wife that should he not return within a certain number of years she might conclude that he was dead, and might, if she so chose, wed again. One version places the time at seven, and another at ten years. During these long years the excellent lady remained true to her lord, but at the end of the term accepted an offer. "One of Drake's ministering spirits, whose charge it was to convey to him any intelligence in which he was nearly concerned, brought him the tidings. Immediately he loaded one of his great guns, and fired it right through the globe on one side, and up on the other, with so true an aim that it made its way into the church, between the two parties most concerned, just as the marriage service was beginning. 'It comes from Drake!' cried the wife to the now unbrided bridegroom; 'he is alive! and there must be neither troth nor ring between thee and me.'"

Drake is described as of low stature, but well set, and of an admirable presence. His chest was broad, his hair nut-brown, his beard handsome and full, his head "remarkably round," his eyes large and clear, his countenance fresh, cheerful and engaging. "It has been said of him that he was a willing hearer of every man's opinion, but commonly a follower of his own," which, as a rule, was really sure to be judicious. He had a quick temper, and once offended, was "hard to be reconciled," but his friendships were firm; he was ambitious to the last degree, and "the vanity which usually accompanies that sin laid him open to flattery." He was affable with his men, who idolised him as the grand commander and skilful seaman that he most undoubtedly was.

In spite of the rich prizes so often taken, a competent authority says: "The expeditions undertaken in Elizabeth's reign against the Spaniards are said to have produced no advantage to England in any degree commensurate with the cost of money and expense of life with which they were performed." But we must never forget the wonderful development of the navy which resulted; the splendid training acquired by our sailors, and the grand gains to geographical science.

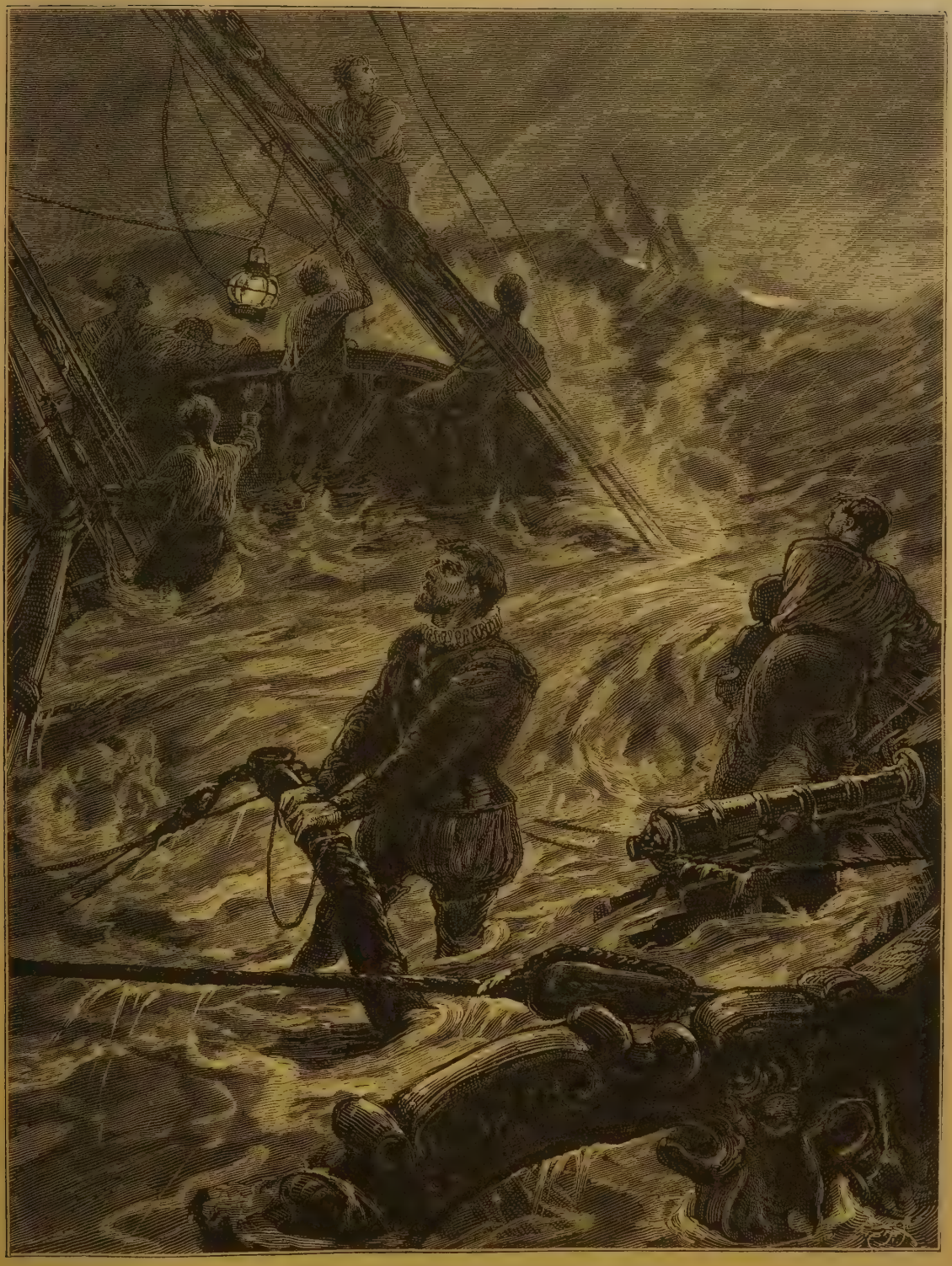
The opening of colonisation and trade with America—so far as England is concerned—is due to Sir Humphrey Gilbert, and his step-brother, Sir Walter Raleigh. From their comparatively insignificant attempts at settling parts of that vast northern continent what grand results have accrued! The acorn has become a mighty, wide-spreading oak, sheltering the representatives of every nationality.

When Sir Humphrey Gilbert proposed to Queen Elizabeth the settlement of a colony in the New World, she immediately assented, and granted him letters patent as comprehensive and wide-spreading as ever issued by papal sanction. She accorded free liberty to him, his heirs and assigns for ever, to discover and take possession of any heathen and savage lands not being actually possessed by any Christian prince or people; such countries, and all towns, castles or villages, to be holden by them of the crown, payment of a fifth of all the gold and silver ore discovered being required by the latter. The privileges seemed so great that "very many gentlemen of good estimation drew unto Sir

Humphrey to associate with him in so commendable an enterprise." But divisions and feuds arose, and Gilbert went to sea only to become involved in a "dangerous sea-fight, in which many of his company were slain, and his ships were battered and disabled." He was compelled to put back "with the loss of a tall ship." The records of this encounter are meagre, but the disaster retarded for the time his attempt at colonisation, besides impairing his estate.

Sir Humphrey's patent was only for six years, unless he succeeded in his project, and in 1583 he found means to equip a second expedition, to which Raleigh contributed a bark of 200 tons, named after him, the little fleet numbering in all five vessels. The queen had always favoured Gilbert, and before he departed on this voyage, sent him a golden anchor with a large pearl on it, by the hands of Raleigh. In the letter accompanying it, Raleigh wrote, "Brother, I have sent you a token from her Majesty—an anchor guided by a lady, as you see. And, further, her highness willed me to send you word, that she wished you as great a good hap and safety to your ship, as if she herself were there in person, desiring you to have care of yourself as of that which she tendereth; and, therefore, for her sake you must provide for it accordingly. Further she commandeth that you leave your picture with me." Elizabeth's direct interest in the rapidly increasing maritime and commercial interests of the day was very apparent in all her actions.

Bark Raleigh was the largest vessel of the expedition, two of the others being of forty, and one of twenty tons only. The number of those who embarked was about 260, and the list included carpenters, shipwrights, masons, and smiths; also "mineral men and refiners." It is admitted that among them there were many "who had been taken as pirates in the narrow seas, instead of being hanged according to their deserts." "For solace of our people," says one of the captains under Gilbert, "and allurement of the savages, we were provided of music in good variety, not omitting the least toys, as morris-dancers, hobby-horse, and May-like conceits to delight the savage people, whom we intended to win by all fair means possible." The period of starting being somewhat late in the season, it was determined to sail first for Newfoundland instead of Cape Florida, as at the former Gilbert knew that he could obtain abundant supplies from the numerous ships employed in the abundant cod-fisheries. The voyage was to commence in disaster. They sailed on June 11th, and two days later the men of the *Bark Raleigh* hailed their companions with the information that their captain and many on board were grievously sick. She left them that night and put back to Plymouth, where, it is stated, she arrived with a number of the crew prostrated by a contagious disease. Some mystery attaches to this defection; "the others proceeded on their way, not a little grieved with the loss of the most puissant ship in their fleet." "Two of the fleet parted company in a fog; one of them was found in the Bay of Conception, her men in new apparel and particularly well provided, the secret being that they had boarded an unfortunate Newfoundland ship on the way, and had pretty well rifled it, not even stopping at torture where the wretched sailors had objected to be stripped of their possessions. The other vessel was found lying off the harbour of St. John's, where at first the English merchants objected to Gilbert's entry, till he assured them that he came with a commission from her Majesty, and had no ill-intent. On the way in, his vessel struck on a rock, whereupon the other captains sent to the rescue,



THE DEATH OF SIR HUMPHREY GILBERT.

saved the ship, and fired a salute in his honour. His first act was to tax all the ships for his own supply; the Portuguese, in particular, contributed liberally, so that the crews were "presented, above their allowances, with wines, marmalades, most fine rusk or biscuit, sweet oil, and sundry delicacies." Then the merchants and masters were assembled to hear his commission read, and possession of the harbour and country for 200 leagues every way was taken in the name of the queen. A wooden pillar was erected on the spot, and the arms of England, engraved on lead, were affixed. The lands lying by the water side were granted to certain of the adventurers and merchants, they covenanting to pay rent and service to Gilbert, his heirs and assigns for ever.

Some of the before-mentioned pirates of the expedition gave Sir Humphrey a considerable amount of trouble while at St. John's, some deserting, and others plotting to steal away the shipping by night. A number of them stole a ship laden with fish, setting the crew on shore. When ready to sail, he found that there were not sufficient hands for all his vessels, and the *Swallow* was left for the purpose of transporting home a number of the sick. He selected for himself the smallest of his fleet, the *Squirrel*, described as a "frigate" of ten tons, as most suitable for exploring the coasts. But that which made him of good heart was a sample of silver ore which one of his miners had discovered; "he doubted not to borrow £10,000 of the queen, for his next voyage, upon the credit of this mine."

For eight days they followed the coast towards Cape Breton, at the end of which time the wind rose, bringing thick fog and rain, so that they could not see a cable's length before them. They were driven among shoals and breakers, and their largest ship was wrecked in a moment. "They in the other vessel," says Hayes,* "saw her strike, and her stern presently beaten to pieces; whereupon the frigate in which was the general, and the *Golden Hinde* cast about, even for our lives, into the wind's eye, because that way carried us to the seaward. Making out from this danger, we sounded one while seven fathoms, then five, then four, and less; again deeper, immediately four fathom, then but three, the sea going mightily and high. At last we recovered (God be thanked!) in some despair to sea room enough. All that day, and part of the night, we beat up and down as near unto the wreck as was possible, but all in vain. This was a heavy and grievous event to lose our chief ship, freighted with great provision; but worse was the loss of our men, to the number of almost a hundred souls; amongst whom was drowned a learned man, an Hungarian, born in the city of Buda, called thereof Budæus, who out of piety and zeal to good attempts, adventured in this action, minding to record in the Latin tongue, the gests and things worthy of remembrance happening in this discovery to the honour of our nation. Here, also, perished our Saxon refiner, and discoverer of inestimable riches. Maurice Brown, the captain, when advised to shift for his life in the pinnace, refused to quit the ship, lest it should be thought to have been lost through his default. With this mind he mounted upon the highest deck, where he attended imminent death and unavoidable,—how long, I leave it to God, who withdraweth not his comfort from his servants at such a time." Of the company only ten were saved in a small pinnace which was piloted to Newfoundland.

* Narrative of Captain Hayes (owner of the *Golden Hinde*) printed in Hakluyt's "Collection."

Meantime, on board the remaining vessels, there was much suffering, and Sir Humphrey was obliged to yield to the general desire, and sail for England, having "compassion upon his poor men, in whom he saw no lack of good will, but of means fit to perform the action they came for." He promised his subordinate officers to set them forth "royally the next spring," if God should spare them. But it was not so to be.

Sir Humphrey Gilbert was entreated, when one day he had come on board the *Hinde*, to remain there, instead of risking himself "in the frigate, which was overcharged with nettage, and small artillery," to which he answered, "I will not forsake my little company going homewards, with whom I have passed so many storms and perils." A short time afterwards, while experiencing "foul weather and terrible seas, breaking short and high, pyramidwise, men which all their life had occupied the sea never saw it more outrageous," the frigate was nearly engulfed, but recovered. Gilbert, sitting abaft with a book in his hand, cried out to the crew of the *Hinde* in the following noble words, so often since recorded in poetry and prose: "Courage, my lads! We are as near to heaven by sea as by land!" That same night the lights of the little vessel were suddenly quenched, and Gilbert and his gallant men were engulfed in the depths for ever. Of such men we may appropriately say with the poet Campbell—

> "The deck it was their field of fame,
> And Ocean was their grave."

The *Hinde* reached Falmouth in safety, though sadly shattered and torn.

But the spirit of enterprise then prevailing was not to be easily quashed, and only a few months after the failure of poor Gilbert's enterprise, we find Sir Walter Raleigh in the field. He obtained letters of patent similar to those before mentioned, and was aided by several persons of wealth, particularly Sir Richard Greenville and Mr. William Saunderson. Two barks, under Captains Amadas and Barlow, were sent to a part of the American continent north of the Gulf of Florida, and after skirting the coast for one hundred and twenty miles, a suitable haven was found, the land round which was immediately taken for the queen with the usual formalities. After sundry minor explorations they returned to England, where they gave a glowing account of the country. It was "so full of grapes that the very beating and surge of the sea overflowed them." The vegetation was so rich and abundant that one of the captains thought that "in all the world the like abundance is not to be found," while the woods were full of deer and smaller game. The cedars were "the highest and reddest in the world," while among smaller trees was that bearing "the rind of black cinnamon." The inhabitants were kind and gentle, and void of treason, "handsome and goodly people in their behaviour, as mannerly and civil as any of Europe." It is true that "they had a mortal malice against a certain neighbouring nation; that their wars were very cruel and bloody, and that by reason thereof, and of civil dissensions which had happened of late years amongst them, the people were marvellously wasted, and in some places the country left desolate." These little discrepancies were passed over, and Elizabeth was so well pleased with the accounts brought home, that she named the country Virginia; not merely because it was discovered in the reign of a virgin queen, but "because it did still seem to retain the virgin purity and plenty

of the first creation, and the people their primitive innocence." These happy natives were described as living after the manner of the golden age; as free from toil, spending their time in fishing, fowling, and hunting, and gathering the fruits of the earth, which ripened without their care. They had no boundaries to their lands, nor individual property in cattle, but shared and shared alike. All this, which was rather too good to be absolutely true, seems to have been implicitly believed. The letters of patent, however, granted to poor Sir Humphrey Gilbert, and subsequently to Sir Walter Raleigh, mark a most important epoch in the world's history, for from those small starting-points date the English efforts at colonising America—the great New World of the past, the present, and the future. Where then a few naked savages lurked and lazed, fished and hunted, forty millions of English-speaking people now dwell, whose interests on and about the sea, rising in importance every day, are scarcely excelled by those of any nation on the globe, except our own. Some points in connection with this colonisation, bearing as they do on the history of the sea and maritime affairs, will be treated in the succeeding volume.

The reader, who while living "at home in ease," has voyaged in spirit with the writer over so much of the globe's watery surface, visiting its most distant shores, will not be one of those who under-rate

"The dangers of the seas."

Nor will the events of every day allow us to forget them. "The many voices" of ocean—as Michelet puts it—its murmur and its menace, its thunder and its roar, its wail, its sigh, rise from the watery graves of hundreds of brave men, who, during only the brief progress of this work, have lost their lives upon the briny deep. Proud as is the position of "Mistress of the Seas," great as is the glory and the gain, there is a reverse to the bright picture, telling of many a brave career suddenly and irrecoverably quenched in the dark waters. Sometimes the pitiless ocean claims for its own—as it did in the cases of the *Eurydice* and *Grosser Kurfürst*—hundreds at one moment, leaving whole nations to mourn the loss. To such painful subjects, alas! we must necessarily recur once and again during the progress of these pages.

CASSELL & COMPANY, LIMITED, BELLE SAUVAGE WORKS, LONDON, E.C.

THE SEA:

Its Stirring Story of Adventure, Peril, & Heroism.

BY

F. WHYMPER,

AUTHOR OF "TRAVELS IN ALASKA," ETC.

ILLUSTRATED.

* *

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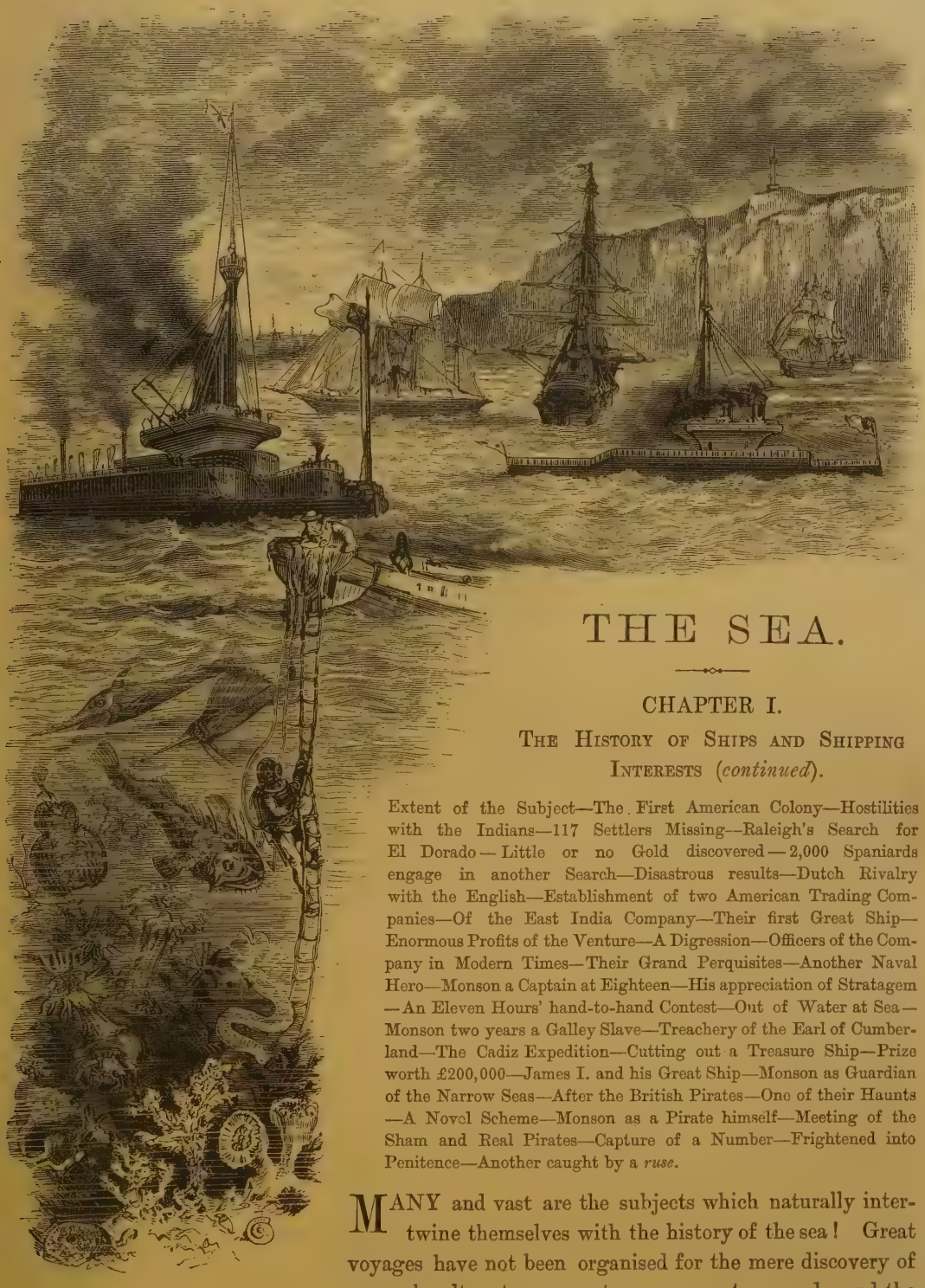


THE SEA.

CHAPTER I.

The History of Ships and Shipping Interests (*continued*).

Extent of the Subject—The First American Colony—Hostilities with the Indians—117 Settlers Missing—Raleigh's Search for El Dorado—Little or no Gold discovered—2,000 Spaniards engage in another Search—Disastrous results—Dutch Rivalry with the English—Establishment of two American Trading Companies—Of the East India Company—Their first Great Ship—Enormous Profits of the Venture—A Digression—Officers of the Company in Modern Times—Their Grand Perquisites—Another Naval Hero—Monson a Captain at Eighteen—His appreciation of Stratagem—An Eleven Hours' hand-to-hand Contest—Out of Water at Sea—Monson two years a Galley Slave—Treachery of the Earl of Cumberland—The Cadiz Expedition—Cutting out a Treasure Ship—Prize worth £200,000—James I. and his Great Ship—Monson as Guardian of the Narrow Seas—After the British Pirates—One of their Haunts—A Novel Scheme—Monson as a Pirate himself—Meeting of the Sham and Real Pirates—Capture of a Number—Frightened into Penitence—Another caught by a *ruse*.

MANY and vast are the subjects which naturally intertwine themselves with the history of the sea! Great voyages have not been organised for the mere discovery of so much salt water—except as a means to an end—and the

good ship has almost always sailed with a definite and positive mission. The history of but a single vessel involves the history, more or less, of hundreds of people; it may mean that of thousands. So the history of the ocean is that also of lands and peoples, far off or near. Subjects the most diverse are still intimately connected with it. In the space of a few years' time, war and peace are strangely contrasted; brilliant discoveries are succeeded by disastrous failures, and heroic deeds stand side by side with shameless transactions. Take only a few of the succeeding pages, and we shall find recorded in them the stories of the early colonisation of America, and of the disastrous voyages in quest of the fabled El Dorado, followed by the brave and daring deeds of one of our greatest naval heroes; these again by the establishment of the great commercial company which once ruled India, succeeded by stories of pirates on the sea, and "bubble" promoters ashore. Sketches of maritime affairs must be "in black and white," so great are the contrasts. But let us turn to our first subject, the early voyages to, and colonisation of, the great New World.

About one hundred men formed the first little colony landed in Virginia from the expedition of Greenville in 1585. Raleigh, at his own expense, sent a shipload of supplies for them next year, but before it arrived the settlers, and the very Indians of whom such flattering accounts had been given, had quarrelled, and so many of the former had fallen as to imperil the existence of the colony; the survivors thought themselves fortunate when Drake unexpectedly arrived off the coast, and took them away. When Greenville reached the settlement, a couple of weeks after, they had left no tidings of themselves, and, wishing to hold possession of the country, he landed fifteen men, well furnished with all necessaries for two years' use, on the island of Roanoake. This voyage paid its expenses by prizes taken from the Spaniards, and by the plunder of the Azores on the way home, where they spoiled "some of the towns of all such things as were worth carriage."

Raleigh, next season, fitted out a third expedition of three vessels, with one hundred and fifty colonists, under the charge of John White, who was to be Governor, with twelve chosen persons as assistants: their town was to be named after himself. After narrowly escaping shipwreck, they arrived off Roanoake, and White, taking the pinnace, went in search of the fifteen men left in the preceding year, but "found none of them, nor any sign that they had been there, saving only the bones of one of them, whom the savages had slain long before." Next day they proceeded to the western side of the island, where they found the houses which had been erected still standing, but the fort had been razed. They "were overgrown with melons of divers sorts," and deer were feeding on the melons. While they were employed repairing these, and erecting others, one George Howe wandered some two miles away, when a party of half-naked Indians, who were engaged in catching crabs in the water, espied him. "They shot at him, gave him sixteen wounds with their arrows, and after they had slain him with their wooden swords, they beat his head in pieces, and fled over the water to the main." Captain Amadas had taken an Indian named Manteo to England with him, and this man, now with White, was sent to the island of Croatoan, where his tribe dwelt, to assure them of the friendship of the English, and an understanding was established. It was ascertained that the men left the preceding year had been treacherously attacked by hostile natives, and that two had been killed, and their storehouse burned; the remainder had succesfully fought through the Indians to

the water's edge, and had escaped in their boat, whither they knew not. Their fate was never learned. Manteo's friends entreated that a badge should be given them, as some of them had been attacked and wounded the previous year by mistake. Something similar occurred shortly afterwards, when the English, burning to avenge Howe's death, attacked a settlement in the night, shooting one of the men through the body before they discovered that the natives there were of the friendly tribe. According to Raleigh's instructions, Manteo was christened, and called lord of Roanoake. About this time, the wife of Ananias Dare, one of the twelve assistants, was delivered of a daughter, who, as the first English child born in that country, was very naturally baptised by the name of Virginia. And now the ships had unladen the planter's stores, and were preparing for departure. It was deemed advisable that two of the assistants should go back to England as factors and representatives of the company, but all appeared anxious to stop. At length the whole party, with one voice urged White to return, "for the better and sooner obtaining of supplies and other necessaries for them." This he very naturally refused, as it would look at home as though the Governor had deserted his band, and had led so many into a country in which he never meant to stay himself. But at last he yielded to them, and was furnished with a testimonial setting forth the reasons. White arrived in England at a period when the danger of a Spanish invasion was imminent, a most unfortunate time for the colonists. When Raleigh was preparing supplies for them, which Greenville was to have taken out, the order was countermanded. White represented the urgency of their wants, and two small pinnaces were despatched with supplies, and fifteen planters on board. Instead of proceeding to America, they commenced cruising for prizes, till, disabled and rifled by two men-of-war from Rochelle, they were obliged to retreat to England. And now Raleigh, who is said to have already expended £40,000 over these attempts at colonisation, appears to have sickened of them, and to have assigned his patent to a company of merchant adventurers. White did his utmost for the poor settlers he represented, and learning that some English ships were about to proceed to the West Indies, tried his best to arrange that they should take some provisions and stores to Virginia, the upshot of which was that he only obtained a passage for himself.

The colony had now been left to itself for two years. When the vessels anchored near the spot, they observed a great smoke on the island of Roanoake, and White, who had a married daughter among the colonists, hoped that it might proceed from one of their camps. Two boats put off from the ships, and the gunners were ordered to prepare three guns, "well loaded, and to shoot them off with reasonable space between each shot, to the end that their reports might be heard at the place where they hoped to find some of their people." Their first search was vain, for though they reached the spot from which the smoke came, there were no signs of life there. The next day a second search was made, but one of the boats was swamped, and the captain and four others were drowned. The sailors averred that they would not seek further for the colonists; they were, however, over-ruled, and another attempt was made. Again they noted a great fire in the woods, and when the boat neared it, they let their grapnel fall, and sounded a trumpet, playing tunes familiar at the time; but there was no response. They landed at daybreak, and proceeded to the place where the colony had been left. "All the way," says White, "we

saw in the sand the print of the savages' feet trodden that night; and as we entered up the sandy bank, upon a tree at the very brow thereof were curiously carved these fair Roman letters, C R O, which letters presently we knew to signify the place where I should find the planters seated, according to a token agreed upon at my departure." He had told them in case of distress to carve over the letters or name a cross; but no such sign was found. At the spot itself where he expected the settlement, he found the houses taken down, and the place enclosed with logs or trees. Many heavy articles, bars of iron, pigs of lead, shot, and so forth, were lying about, almost overgrown with grass and weeds. Five chests, of which three were his own, were found at last, but they had been evidently broken into by the savages. "About the place," says White, "many of my things, spoiled and broken, and my books torn from the covers, the frames of some of my pictures and maps rotten and spoiled with rain, and my armour almost eaten through with rust." But on one of the trees or chief posts of the enclosure, the word CROATOAN was carved in large letters, and he now understood that they were with Manteo's tribe. It was agreed that they should make for that place; but again fortune was against them.

One disaster followed another, and when at last they left Virginia, it was with the intention of wintering in the West Indies, and returning the following spring; but even this was not to be. Stress of weather drove them to the Azores, and once there it was naturally decided to return to England. No later attempt was made to succour them, and the fate of ninety-one men, seventeen women, and nine children, and of two infants born there, the names of which are preserved in Hakluyt, was never known. Raleigh has been greatly blamed for inhumanity in this connection. His excuse is that it was the busiest part of his eventful life. He had just borne his part in the defeat of the Armada; had been one of eleven hundred gentlemen who ventured on the unfortunate Portuguese expedition; had been sent, in what was regarded as an honourable banishment, but none the less an exile, to Ireland; on regaining his place in the queen's favour had taken an active part in Parliamentary service; was concerned in a fresh naval expedition from which he was recalled by the queen, and had his first taste of that cell in the Tower, which later on he left only for the scaffold.

In 1595, we find Raleigh bent on a discovery which had long been a feverish dream with him—the conquest of the fabled El Dorado. It was but the result of the discoveries of the Spaniards in Mexico and Peru; and all over the Spanish main there was a fond belief extant in something greater and richer than anything yet found. One of the traditions of the day was that a relative of the last reigning Inca of Peru, escaping from the wreck of that empire, with a large part of its remaining forces and treasure, had established himself in a new country, which was found to be itself as rich in mines as that from which he had migrated. "The Spaniards," says Southey, "lost more men in seeking for this imaginary kingdom than in the conquest of Mexico and Peru."

Raleigh was encouraged in this enterprise by such men as Cecil, and the Lord High Admiral Howard, who contributed to its cost. His idea was to enter the land of gold by the Orinoco, and prior to his own voyage he despatched a ship, under Captain Whiddon, to reconnoitre on that part of the coast, and to seek information at the island of Trinidad. When Raleigh and his squadron had arrived at one of its ports he found a company of Spaniards

RALEIGH AT TRINIDAD.

from whom he cautiously extracted all they knew or believed concerning Guiana. "For these poor soldiers," says he, "having been many years without wine, a few draughts made them merry; in which mood they vaunted of Guiana, and of the riches thereof, and all what they knew of the bays and passages, myself seeming to purpose nothing less than the entrance or discovery thereof, but bred in them an opinion that I was bound only for the relief of those English whom I had planted in Virginia, whereof the bruit was come among them, which I had performed in my return if extremity of weather had not forced me

SIR WALTER RALEIGH.

from the said coast." Raleigh stopped some time here, not merely to extract all the information possible, but also to be revenged on the Governor, who the year before had behaved treacherously, entrapping eight of Captain Whiddon's men. This he accomplished by taking and burning one of their new towns, and detaining the Governor, Berrio, at his pleasure on board. The same day two more of his ships arrived, and they prepared for the purposed discovery. "And first," says Raleigh, "I called all the captains (*i.e.*, caciques or native chiefs) of the island together that were enemies to the Spaniards; * * * and by my Indian interpreter, which I carried out of England, I made them understand that I was the servant of the queen, who was the great cacique of the north, and a virgin, and had more caciqui under her than there were trees on that island; that she was an enemy to the Castellani (*i.e.*, Spanish from Castille) in respect of their tyranny and oppression,

and that she delivered all such nations about her as were by them oppressed; and having freed all the coast of the northern world from their servitude, had sent me to free them also, and withal to defend the country of Guiana from their invasion and conquest. I showed them her Majesty's picture, which they so admired and honoured as it had been easy to have brought them idolatrous thereof." Raleigh used the Governor with courtesy and hospitality, and sounded him well concerning Guiana; and Berrio conversed with him readily, having no suspicion of Raleigh's intentions. But when Sir Walter told him that he had resolved to see that country, the Governor "was stricken into a great melancholy," and tried all he could to dissuade him. He described the rivers as full of sandbanks, and so shallow that no bark or pinnace could ascend them, and scarcely a ship's boat; that they could not carry provisions for half the journey, and that the "kings and lords of all the borders of Guiana had decreed that none of them should trade with any Christians for gold, because the same would be their own overthrow, and that for the love of gold the Christians meant to conquer and dispossess them altogether." The golden country was 600 miles farther from the coast than he had been informed, which piece of news Raleigh carefully concealed from his company, for he was resolved "to make trial of all, whatsoever happened." After many explorations, on the part of his captains, of the rivers, the mouths of which were found to be as shallow as he had been told, he, with 100 men divided in a galley, four boats and barges, and carrying provisions for a month, resolved to see for himself.

From the spot where the ships lay, they had as much sea to cross as between Dover and Calais, the waves being high, and the current strong. They at length entered a stream, which Raleigh called the River of the Red Cross, and where they noted Indians in a canoe and on the banks. Their interpreters, Ferdinando and his brother, went ashore to fetch fruit, and drink with the natives, when they were seized by the chief with the intention of putting them to death, because "they had brought a strange nation into their territory to spoil and destroy them." Ferdinando and his brother managed to escape, the former running into the woods, and the latter reaching the mouth of the creek where the barge was staying, when he cried out that his brother was slain. On hearing this, "we set hands," says Raleigh, "on one of them that was next us, a very old man, and brought him into the barge, assuring him that if we had not our pilot again we would presently cut off his head." The old man called to his tribe to save Ferdinando, but they hunted him through the forest, with shouts that made the whole neighbourhood resound. At length he reached the water, and climbing out on an overhanging tree, dropped down and swam to the barge, half dead with fear. The old Indian was retained as pilot.

Ascending with the flood, and anchoring during ebb tide, they went on, till on the third day their galley grounded, and stuck so fast that it was a question whether their discoveries must not end there; but at last, by lightening her of all her ballast, and hauling and tugging, she was once more afloat. Next day they reached a fine river, where there was no flood tide from the sea, and they had to contend against a strong current; "and had then," says Raleigh, "no shift but to persuade the company that it was but two or three days' work" to reach their destination. "When three days were overgone, our companies began to despair, the weather being extreme hot, the river bordered with very high trees that kept away the air, and the current against us every day stronger than the other; but we once

more commanded our pilots to promise to end the next day, and used it so long as we were driven to assure them from four reaches of the river to three, and so to two, and so to the next reach; but so long we laboured that many days were spent, and we driven to draw ourselves to harder allowance, our bread even at the last and no drink at all; and ourselves so wearied and scorched, and doubtful withal whether we should ever perform it or no, the heat increasing as we drew towards the line, for we were now in five degrees. The farther we went on (our victuals decreasing and the air breeding great faintness) we grew weaker and weaker, when we had most need of strength and ability, for hourly the river ran more violently than other against us; and the barge, wherries, and ship's boat had spent all their provisions, so as we were brought into despair and discomfort, had we not persuaded all the company that it was but one day's work more to attain the land, where we should be relieved of all we wanted; and if we returned that we should be sure to starve by the way, and that the world would also laugh us to scorn." The old Indian now offered to take them to a town at a short distance, where they could get bread, hams, fish, and wine, but to reach it they must leave the galley, and proceed up a smaller stream with the barge and wherries. Raleigh, with two of his captains and sixteen musketeers started, but when, after hard rowing, it grew night, and there were no signs of the place, they feared treachery. The old native still assured them that it was but a little further, and they rowed on past reach after reach, and still no town or settlement could be discovered. At last they decided to hang the pilot, and Raleigh states distinctly that "if we had well known the way back again by night, he had surely gone, but our own necessities pleaded sufficiently for his safety, for it was now as dark as pitch, and the river began so to narrow itself, and the trees to hang from side, so as we were driven with arming swords to cut a passage through those branches that covered the water." At last, an hour after midnight, a light was seen, and the welcome noise of the village dogs heard, as they rowed towards it. There were few natives there at the time, but some quantity of provisions was obtained, with which they returned to the galley next day. The natives called this stream the river of alligators, and a negro, who was one of the galley's crew, venturing to swim in it, was devoured by one of those animals. Raleigh says of the country through which it passed, "whereas all that we had seen before was nothing but woods, prickly bushes, and thorns, here we beheld plains of twenty miles in length, the grass short and green, and in divers parts groves of trees by themselves, as if they had with all the art and labour in the world been so made of purpose; and still as we rowed, the deer came down feeding by the water's side, as if they had been used to a keeper's call."

Still proceeding up the great river, their provisions almost exhausted, they observed four canoes coming down the stream, to which they gave chase. The people in two of the larger escaped into the woods, and left behind a large stock of bread, which was very welcome. Searching the woods, Raleigh came across an Indian basket, which proved to be that of a refiner, as it contained quicksilver, saltpetre, and other things for gathering and testing metals, and also the dust of such as he had discovered. Raleigh offered £500 to the soldier who should take one of three Spaniards known to have been with this party, but they escaped. He was more fortunate with the Indians who had accompanied them, and one of them was taken for pilot, from whom he learned that the richest mines were

"defended with rocks of hard stones, which we call white spar" (presumably quartz). He states that in the canoes which escaped there was a good quantity of ore and gold.

Still proceeding, on the fifteenth day, to their great joy, the distant mountains of Guiana came into view, and the same day brought them in sight of the great Orinoco, about the branches of which river thousands of tortoise eggs were found, which proved to be "very wholesome meat, and greatly restoring." The natives, too, were friendly, and to Raleigh's credit, be it said, he appears in all cases to have treated them fairly and well. With the cacique he made merry, treating the natives to a small quantity of Spanish wine, they in return bringing in fruits, bread, fish, and flesh. The chief conducted them to his own town, "where," says Raleigh, "some of our captains caroused of his wine till they were reasonably pleasant; for it is very strong with pepper, and the juice of divers herbs digested and purged; they keep it in great earthen pots of ten or twelve gallons, very clear and sweet; and are themselves at their meetings and feasts the greatest carousers and drunkards in the world." The settlement stood on a low hill, "with goodly gardens a mile compass round about it." And so they proceeded, meeting friendliness everywhere among the natives, till the rivers commenced fast rising, and they could not row against the stream. Small parties were then detailed ashore to look for mineral stones. Raleigh describes the country as lovely; "the deer crossing in every path; the birds towards the evening singing on every tree with a thousand several tunes; cranes and herons, of white, crimson, and carnation, perching on the river's side; the air fresh with a gentle easterly wind; *and every stone that we stooped to take up promised either gold or silver by its complexion.* * * * I hope some of them cannot be bettered under the sun; and yet we had no means but with our daggers and fingers to tear them out here and there, the rocks being most hard, of that mineral spar aforesaid, which is like a flint, and is altogether as hard, or harder; and besides, the veins lie a fathom or two deep in the rocks. But we wanted all things requisite, save only our desires and good will, to have performed more, if it had pleased God." Some of the others brought glistening stones, and among them, apparently pyrites, which very commonly accompanies gold, but of the precious metal itself Raleigh could hardly boast a speck in truth. His account of these discoveries is mixed up with the strangest fables, as for example of the Ewaipanoma, a people of that country whose eyes were in their shoulders, and their mouths in the middle of their breasts!

The ships were regained, and the expedition sailed for England, where Raleigh, in spite of the work which he published under the boastful title of "The Discovery of the Large, Rich, and Beautiful Empire of Guiana, with a Relation of the Great and Golden City of Manoa (which the Spaniards call El Dorado)," &c., lost both popular and queenly favour, having brought home no booty. In fact the narrative given to the world rather did him harm than good, for it is full of excuses, admits that the voyage had been most unprofitable, and is undoubtedly not veracious in many particulars. His arguments for immediately attempting the conquest of Guiana were not regarded. Yet still he had means and friends. Two expeditions to Guiana were afterwards organised, neither of which resulted in any discovery or profit.

But others besides Raleigh and his followers had been inflamed with the accounts floating about concerning El Dorado. Berrio, the Spanish Governor before mentioned,

despatched his camp master to Spain to levy men, sending with him some golden carvings and "images, as well of men as beasts, birds, and fishes," in order to obtain further aid from the king and his subjects. This agent, Domingo de Vera, was a man of ability, and thoroughly unscrupulous; he courted notoriety by appearing always in a singular dress, adorned with golden trinkets and jewels, and being of great stature, and riding always a great horse, attracted much attention, being known popularly as the Indian El Dorado. He was successful in raising seventy thousand ducats at Madrid, and a large additional

RALEIGH ON THE RIVER.

sum at Seville: obtained authority for raising a band of adventurers, and five good ships to carry them out. Men of good birth left their estates, respectable middle-class men gave up their incomes and employments, sold everything, and embarked with their wives and children; even a prebendary, and many priests, gave up sure prospects of advancement to join the expedition, which at last aggregated two thousand persons. Berrio had only asked for 300, and when the expedition reached Trinidad, they had to be apportioned to various other settlements; the women and children being serious encumbrances at the time, and enduring great misery. The savage Caribs attacked their canoes when proceeding to St. Thomas and elsewhere. One detachment of three hundred were reduced to thirty souls by the crafty Indians, who, after very partially supplying them with provisions, watched them sink with weakness and disease till they became an

easy prey. In some places they set fire to the grass, and the wretched travellers, unable to fly before it, were burned to death. Those who reached the Orinoco, not merely found no gold, but little of that abundance so glowingly described by Raleigh. Vera himself soon died in Trindad, and Berrio did not long survive him. Of the original two thousand who left Spain, it is doubtful whether a tithe survived the first year. Had Raleigh been a favourite with the people, or had his character been above suspicion, it is more than likely that some similar disaster might have had to be recorded on the pages of English history.

Sir Walter Raleigh has enlightened us,* as regards the condition of commerce and of the English mercantile marine shortly before the union of the crown of England and Scotland, in a remarkable paper, "which contains," says a competent authority, "many remarkable commercial principles far in advance of the age in which the author lived." He states that the ships of England were not to be compared with those of the Dutch, and that while an English ship of one hundred tons required a crew of thirty men, the Dutch would sail such a vessel with one-third that number. Holland became the depôt of numerous articles, "not one hundredth part of which were consumed by the Dutch," while she gave "free custom inwards and outwards for the better maintenance of navigation and encouragement of the people to that business." Sir Walter tells us that France offered to the vessels of all nations free customs twice and sometimes three times each year when she laid in her annual stock of provisions, and also in such raw materials as were not possessed by herself in equal abundance. Denmark granted free customs the year through, excepting only one month. The Dutch were the great carriers by sea, in consequence of the facilities granted them at home, "and yet the situation of England lieth far better for a storehouse to serve the south-east and the north-east kingdoms than theirs do; and we have far the better means to do it if we apply ourselves to do it." He complained that although the greatest fishery in the world is on the coasts of England, Scotland, and Ireland, Holland despatched to the Baltic and up the Rhine more than a million pounds sterling worth of herrings, where we did not export one. He states that Holland trafficked in "every city and port of Britain with five or six hundred ships yearly, and we chiefly to three towns in their country and with forty ships; the Dutch trade to every port and town in France, and we only to five or six," and that the Dutch were even ruining our Russian trade. In spite of probable exaggerations in Raleigh's statements as laid before the King, it is evident that with the laws as they stood, the Dutch must have had, as regards their commercial marine, very much the best of it.

While there was much depression among the shipowners, they did not overlook the advantages to be derived from intercourse with the newly-discovered world of North America. Though the expeditions promoted by Raleigh and his associates had been unfortunate, profitable ventures were soon after made, beads, trinkets, and articles of little value being exchanged for skins and furs obtained by the Indians; and Captain Gosnold made in 1602 the first *direct* voyage across the Atlantic to America—all other English sailors at least having sailed by way of the Canaries and West Indies. "Steering in a small bark, directly across the Atlantic, in seven weeks he reached Cape Elizabeth on the coast of Maine.

* "Select observations of the incomparable Sir Walter Raleigh relating to trade," as presented to King James.

Following the coast to the south-west, he skirted 'an outpoint of wooded land;' and about noon of the 14th of May he anchored 'near Savage Rock,' to the east of York Harbour. . . . Not finding his 'purposed place' he stood to the south, and on the morning of the 15th discovered the promontory which he named Cape Cod. He and four of his men went on shore. Cape Cod was the first spot in New England ever trod by Englishman." He traded with the natives in peltries, sassafras, and cedar-wood, and was probably the first to sow English corn on the Island of Martha's Vineyard. In 1606 two maritime companies, the "Plymouth Adventurers," and the South Virginia Company, were authorised to colonise and form plantations; the first having right to the territory which now embraces Pennsylvania, New Jersey, and New York; and the second, to that which now includes Maryland, Virginia, and North and South Carolina. A single steamer of these days has often landed more emigrants at New York than did a dozen of these early expeditions at other points, for their progress at first was painfully slow.

The great East India Company was formed in England more than a century after the discovery, by Vasco de Gama, of the route to India *viâ* the Cape. The first voyage of Thomas Cavendish is worthy of more note than it has received, inasmuch as it contributed more than anything else to awakening the merchants of London to the importance of the trade prospects there. Starting in July, 1586, he circumnavigated the globe, passing through the Straits of Magellan westward, in eight months less than Drake. He was the first English navigator to discern the value of the position of St. Helena, to describe with accuracy the Philippine Islands, and to bring home a map and description of China; and what is more remarkable is the fact that he was scarcely more than twenty-two years of age when he took command in this first most adventurous voyage. He was shipwrecked five or six years later on the coast of Brazil, and lost his life there. Through Mr. Thorne, an English merchant, often mentioned in connection with these early voyages, the London merchants gained a considerable amount of knowledge relating to the important trade with the Indies enjoyed by the Spanish and Portuguese; and at length, in the year 1600, more than 200 shipowners, traders, and citizens associated, and formed a body corporate, having received many special privileges from the Crown, "including," says Lindsay,* "that of punishing offenders either in body or purse, provided the mode of punishment was not repugnant to the laws of England. Its exports were not subjected to any duties for the four first voyages, important indulgences were granted in paying the duties on imports, and liberty was given to export £30,000 each voyage in coin or bullion, provided £6,000 of this sum passed through the Mint. But not exceeding six ships, and an equal number of pinnaces, with 500 seamen, were allowed to be despatched annually to whatever station might be formed in India, with the additional provisoes that the seamen were not at the time required for the service of the Royal Navy, and that all gold and silver exported by the Company should be shipped at either London, Dartmouth, or Plymouth." The Company started with a capital of £72,000, and equipped five vessels for the first venture, the largest of which was the *Dragon* of 600 tons; her commander, according to the practice of the day, receiving the title of "Admiral of the Squadron." The first voyage was very successful; important commercial

* "History of Merchant Shipping and Ancient Commerce."

MONSON AND THE BISCAYAN SHIP.

relations were formed with the King of Achin, in Sumatra; and a factory established at Bantam, after which the ships returned to England richly laden.

A serious rival was, however, in the field. The separation of the Dutch provinces from the crown of Spain had caused their merchants to be sent abroad to seek new fields of commerce, and as they had gained an intimate knowledge of Spanish and Portuguese affairs, they were then the predominant naval power in the Indian Seas, and were quite ready to contend against any supremacy on the part of England's traders. English merchants were, however, ready for them, the profits on the first expedition having incited them to grander efforts. They obtained a new Charter in 1609, and the Company constructed a vessel of larger size than any hitherto employed in the English merchant service, which they named the *Trades' Increase*. She was 1,200 tons, and even her pinnace was 250 tons. At her launch, the Company gave a great banquet, at which the dishes were of china ware, then a great novelty in England. With these and two other vessels Sir Henry Middleton set sail, touching at Mocha, on the Red Sea, where, entrapped ashore by the Mohammedans, eighty of his crew were massacred, sixteen others disabled, and he himself severely wounded. Proceeding to Bantam, the *Trades' Increase* was unfortunately shipwrecked, and poor Middleton died heartbroken at the failure of the expedition. But other voyages followed, which were enormously profitable to the Company. One expedition is mentioned which, "though absent only twenty months, earned in that time a profit of no less than 340 per cent." "Factories"—trading posts or forts—were established, and the Company obtained the favour of the Moghul Emperor, Jehangir, more especially after they had been fortunate enough to repel some of the Portuguese who were attacking his posts. They even contrived to obtain a footing in Japan, through the influence of William Adams, a Kentish man, who had been pilot on one of the earliest Dutch expeditions, and who stood high in the Emperor's favour. The intercourse then opened was allowed to die out, and has only been re-established late in our own time. In seventeen years after the first establishment of the Company its affairs had become so prosperous that its stock reached a premium of 203 per cent., and the Dutch East India Company suggested an amalgamation of the two corporations with a view to exclude and crush their common enemy, the Portuguese. This was never carried into effect, but in 1619 a treaty of trade and friendship was established. They were to "cease from rivalry, and apportion the profits of the different branches of commerce between them." Alas! all this amicable billing and cooing speedily came to an end; such self-abnegation was found hardly practicable between business rivals. A series of hostilities ensued in the following year; a number of Englishmen were massacred by the Dutch at Amboyna, and sea-fights occurred between the vessels; the result being that the Dutch had it all their own way in a few years afterwards. The directors of the English Company even meditated winding up its affairs. Something similar happened more than once afterwards before they became a grand company and the real governors of India. The rise of British power there is one of those surprising revolutions which never before occurred in history. The managers of a trading company in London first became the lords of a manor a dozen times the size of England, and controlled the destinies of kings and princes, engaging in war or peace as occasion seemed to demand. Think of the affairs of a great country settled in a counting-house! But at length the anomaly had to cease, and, as most readers will remember, the East India Company lost its powers and privileges in 1858,

and ceased to exist as a governing body. Retiring allowances were made to commanders and officers. It may be interesting to note that up to 1814 trade with India, so long a jealously-guarded monopoly with the Company, was thrown open to private competition, but that they retained the exclusive trade with China for a long period after that date.

A trifling digression may be allowed here, as it really bears on our subject. The East India Company was long a synonym for everything that was rich and powerful, and many of its civil servants visited or retired to England as opulent and independent men. The maritime branch of the service received a goodly slice of the pie; and some facts relating thereto recorded by Lindsay, the authority before quoted, himself long a great shipowner, will astonish and interest the reader. A commander's position in the H. E. I. Co.'s service was most assuredly worth having, for his salary was a very small part indeed of his receipts. The Company granted a number of "indulgences" to their naval officers, of which the following are only part. Ninety-seven tons of space were reserved for the commander and officers, of which the former of course took the lion's share, 56½ tons. They were permitted to import on the homeward voyage tea to the following extent:—9,336lbs. for the commander, 1,228 lbs. for first mate, and the lower grades were each privileged in the same way, but to a smaller extent. The officers might bring in China-ware as a flooring for the tea-chests, the quantity of which might range from 20 to 40 tons, according to the size of the vessel. They were even allowed surplus tonnage, when it could be safely and conveniently carried. The commander received as his perquisite the passage-money paid by *all* private passengers, the cost of their provisions and wine being alone deducted. His table was luxuriously supplied, and he was allowed to import for his own use two butts of Madeira wine. The first mate had, among his extra allowances, and quite apart from the regular supply of provisions on board, 24 dozen of wine or beer, 2 firkins of butter, 1 cwt. of cheese, 1 cwt of groceries, and 4 quarter casks of pickles for the voyage. Lindsay says, "So many were their privileges, and so numerous their perquisites, that during five India or China voyages a captain of one of the Company's ships ought to have realised sufficient capital to be independent for the rest of his life." He was, in effect, a merchant, doing business for himself while in the employ of a large mercantile concern, and his officers were the same on a smaller scale. The above writer considers that the direct and inevitable remuneration to a commander was from £3,000 to £5,000 per round voyage, out and home, but that with his privileges and perquisites it might and often did reach £8,000 to £10,000, or more. He mentions one instance which came within his own knowledge, where "the commander of one of the ships employed on the 'double voyage'—that is from London to India, thence to China, and thence back to London, where he had a large interest in the freight on cotton or other produce conveyed from India to China—realised no less than £30,000." And yet some of them were not satisfied, and the Company had to make laws and investigations concerning illicit trading and smuggling with the connivance of the Custom House officers. Some of the commanders had even put into ports for which they had no orders, to carry out their own purposes.

The internal economy of an East Indiaman was, as regards discipline and order, modelled for the most part upon that of a man-of-war, and carried more men, twice over, than does many a modern steamer double her tonnage. Thus, one of the finest vessels of

the Company, mentioned by Lindsay, was for a considerable period the *Earl of Balcarras*. She was of 1,417 tons, and had 130 souls on board. After the commander came six mates, a surgeon and assistant, six midshipmen, purser, boatswain, gunner, carpenter, master-at-arms, armourer, butcher, baker, poulterer, caulker, cooper, two stewards, two cooks, eight boatswain's, gunner's, carpenter's, caulker's, and cooper's mates; six quartermasters, a sailmaker, seven servants for officers, and seventy-eight seamen. But we are wandering from our theme.

The reign of Elizabeth was a glorious epoch in the history of naval affairs, and great names crowd upon us. It is impossible to pass by that of Sir William Monson, who served his country for fifty years, through three reigns, and whose "Naval Tracts" are almost as valuable as were his services, illustrating as they do the condition of the navy and maritime affairs of the period, and abounding in the details of well-described exploits.

Monson was of a good Lincolnshire family, and at an early age entered Baliol College, Oxford, where he remained a couple of years, till the excitement of the war with Spain determined him to run away to sea, as he did not expect to get the consent of his parents. At this date, 1585, he was only sixteen years of age. "I put myself," says he, "into an action by sea, where there was in company of us two small ships, fitted for men-of-war, that authorised us by commission to seize upon the subjects of the King of Spain; then made I the sea my profession, being led to it by the wildness of my youth." He had not long to wait for adventure. "A strong and obstinate ship of Holland" was encountered, whose captain had the audacity not to strike his flag immediately, when required to do so. The Dutch vessel had an English pilot on board, through whom communication was held; and the master of the privateer, by a ruse of navigation, ordering his helmsman in a loud voice to port his helm, while in an undertone he instructed him to do just the reverse, nearly fouled the Dutchman, whose men got out oars and fenders to prevent the impending collision. "When we saw their people thus employed," says Monson,* "and not to have time to take arms, we suddenly boarded, entered, and took her by this stratagem." Monson, when an old man, used to chuckle over his boyish share in this exploit, and includes it among "stratagems to be used at sea" in his "Tracts."

But he was to have speedily a better opportunity of distinguishing himself. The privateer on which he served—for she was nothing more—encountered a large Biscayan ship off the Spanish coast, whose captain refused to strike. A few of the English crew, including Monson, managed to board her, when the sea suddenly rose, and this mere handful were left on the Spaniard's decks, while the privateer was compelled to ungrapple. The storm increased, and it was not possible to succour the little band, who fought for *eleven* hours, from eight o'clock in the evening to seven the next morning. The Spaniards attempted to blow up the deck which they maintained, but "were prevented by fire-pikes," and at last surrendered after a desperate contest. The decks were covered with the dead and dying. "I dare say," says the narrator of the event, "that in the whole time of the war there was not so rare a manner of fight, or so great a slaughter of men." Monson, who had now received his "baptism of fire" with a vengeance, determined that nothing

* "Monson's "Naval Tracts" in Churchill's "Collection." Most of the narrative to follow is taken from the same source.

should take him from his adopted profession, and it is presumable that his friends became reconciled to it, for we find him suddenly raised, at one step, from the grade of a volunteer to the rank of captain, although but eighteen years old! Family influence, doubtless, had something to do with it. Gentlemen captains, who were often brave men, but who knew little enough about naval affairs, were common in those days. Raleigh distinguishes them very distinctly from the "tarpauling captain," or mariner who had learned his profession from a youth up. Monson, however, as his writings prove, soon became an adept in navigation and all the arts of seamanship.

Passing over a voyage in which Monson was nearly shipwrecked, we come to 1589, when he accompanied the Earl of Cumberland in his expedition to the Azores. The crews were reduced to great distress from want of water, and while cruising among the islands, a grand spout was seen issuing apparently from one of their cliffs. Cumberland asked Monson to go with four men and find out whether it was available for their use. While they were rowing towards the land, a great whale, lying asleep on the water, was noted from the ship, and was mistaken for a rock, whereupon the vessel tacked about and put to sea, leaving Monson to his fate. (The original narrative does not explain whether the waterspout, noticed from the ship, had proceeded from the whale, before it fell asleep.) "I had no sooner," says Monson, "set my foot ashore, than it began to be dark with night and fog, and to blow, rain, thunder, and lighten in the cruellest manner that I have seen. There was no way for me to escape death but to put myself to the mercy of the sea; neither could I have any great hope of help in life, for the ship was out of sight, and there only appeared a light upon the shrouds to direct me." The narrative says that a countryman of Monson's on board prevailed upon his lordship (the Earl of Cumberland) to forbear sailing. This was, one would think, hardly necessary, as Monson was his second in command; but stress of weather will probably account for the vessel being driven some distance. They rowed and rowed, but lost all sight of the ship. At length, in despair, they fired their last charge of powder from a musket. The flash was seen through the fog, and they were saved. "We were preserved," says the narrative, "rather by miracle than any human act; and to make it the more strange we were no sooner risen from our seats, and ropes in our hands to enter the ship, but the boat sunk immediately." The subsequent sufferings of the crew from the continued want of water have rarely been equalled. "For sixteen days together," says Monson, "we never tasted a drop of drink, either of beer, wine, or water; and though we had plenty of beef and pork of a year's salting, yet did we forbear eating it, for making us the drier. Many drank salt water, and those that did died suddenly; and the last words they usually spoke were 'Drink, drink, drink!'" There were 500 men on board, and the mortality, though not expressly stated in numbers, is said to have been something fearful. At last they made the coast of Ireland, and obtained relief. So severely was Monson's health affected by this voyage, that he retired from the active pursuit of his profession for a year afterwards.

Again he joined the Earl of Cumberland in 1591 on an expedition directed against Spain, off the coasts of which he successfully took two caravels by one of the stratagems for which he was famous. He had boarded one from the ship's boat; he manned her with a part of his boat's crew, and rowed back to his ship. The Spaniards on the other caravel far in the distance thought that the first, her consort, had been dismissed, and so shortened sail to meet

her; and were consequently taken unawares by a mere handful of men. But Monson only wanted to obtain information as to the enemy, and let them both off. This act turned out fortunately for him; for shortly afterwards, being left in charge of a prize taken from the Dutch, he was attacked by the Spaniards in six galleys, the consequence being that he was taken prisoner, when he found that his recent conduct towards the caravels had been reported favourably, and he was treated with more courtesy than had been usual before. But he was to suffer a long captivity for all that. At the Tagus he would probably have escaped had

MONSON AT CADIZ.

not an unforeseen chance prevented. While the galleys were in the harbour, a Brazilian, master of a Dutch ship, chanced to come on board that on which Monson was confined, and, pitying his hard fate, offered to take him off on his vessel, if he could devise any plan which should not implicate himself. Monson gave out to the rest of the prisoners that, tired of his life, he intended to drown himself. His intention really was to drop quietly into the water, and if possible swim to the friendly bark. But just before he had made his arrangements, the galleys were ordered to sea, and when they returned the ship had sailed. It is probably fortunate for him that he did not make the attempt, as, had it been frustrated, he would have probably suffered death, as did an Italian a short time afterwards, who had been trying to raise a general conspiracy on board. His execution was effected in the most horrible

manner, his arms and legs being severally tied to the sterns of four galleys, which were rowed in four different directions, thus quartering him.

Monson was afterwards removed to the castle of Lisbon, from which an attempt on his part to escape was frustrated by the treachery of an English interpreter there, whom he had been forced to employ. Fortunately, the letter which he had entrusted to a page, who was to have conveyed it *in his boots* to Lord Burleigh, became so saturated and obliterated by rain, that nothing could be made of it, and the whole matter was allowed to pass. Not so, however, after he had helped a Portuguese to escape, who had been condemned to death. The latter, aided by Monson's skill, managed to pass the sentinels disguised as a soldier, and then lowering himself by a rope, effected his plans. The flight having been discovered, Monson was accused of having assisted him, and was taken before the judge. "But neither threats nor promises of liberty could induce him to confess. He pleaded that he was a prisoner of war, that he was subject to the law of honour and arms, and that it was lawful for him to seek his freedom: he urged the improbability of holding such intercourse as was imputed to him with one whose language he did not understand; and he concluded by cautioning them to be wary what violence they offered him, as he had friends in England, and was of a nation that could and would revenge his wrongs." The latter argument probably it was that carried the day; but until released—no doubt by exchange—he was closely guarded.

In 1593, Monson again joined Cumberland, and considering the fidelity which he had always shown to that admiral, the latter seems to have treated him very badly. In the course of their voyage, a dozen Spanish hulks laden with powder were taken, half of which were left to Monson to haul over, while his admiral put to sea with the rest. Monson had with him only about fifty men. What was his surprise towards night to find that Cumberland had released the hulks which he had taken, and that they were crowding on all sail to join their consorts in his charge, with hostile intent, which it would be madness on his part to attempt to frustrate. He barely escaped; when the enemy boarded him on one side of his vessel, he leaped into the long boat on the other side, receiving a wound which remained all his days. Southey certainly puts it mildly when he says, "The conduct of the Earl of Cumberland in this affair admits of no reasonable or satisfactory explanations," for it looks far more like downright treachery. A couple of years afterwards, the Earl very plainly declared his colours by first inducing him to join him in his voyage, and then superseding him. Monson could not brook this, and returned, after some adventures, to England, where we soon find him with the Earl of Essex, in the expedition to Cadiz. At that most remarkable siege, he was in the thick of the fight ashore with Essex, where he received a shot through his scarf and breeches; another shot took away the handle and pommel of his sword, while he remained uninjured. But his principal services were in connection with the destruction of the fleet, which meant a loss of six or seven millions sterling to Spain. "The King of Spain," says Monson, "never received so great an overthrow, and so great an indignity at our hands as this; for our attempt was at his own home, in his own ports, that he thought as safe as his chamber, where we took and destroyed his ships of war, burnt and consumed the wealth of his merchants, sacked his city, ransomed his subjects, and entered his country without impeachment." Monson was knighted for his conduct at this siege.

The abundant "pluck" possessed by Monson is illustrated in the following example.

In 1597, on the island expedition, Monson's ship was separated some distance from the admiral's squadron, when a fleet of twenty-five sail was noted approaching in the dead of the night. Not being able to distinguish their flag, he determined to reconnoitre for himself, before signalling to the English ships. He approached them in his boat, hailing them in Spanish, and they, replying that they were of that nationality, asked whence he came. He replied that he was of England, and told them that his ship, then in sight, was a royal galleon, and could be easily taken, his object being to make them pursue him, so that he might gradually lead them into the wake of the squadron. All he got for this impudently gallant attempt was a volley of bad language and another of shot.

But all Monson's exploits pale before an action which occurred in Cerimbra roads, in which a great treasure-ship was cut out, in sight of a fortress and eleven galleys, and within hearing of the guns of Lisbon. He was then associated with Admiral Sir Richard Lewson, but the principal part of the service was performed by himself. When the carrack and galleys were discovered lying at anchor, a council was held on board the admiral's vessel, which occupied the better part of a day, as many of the captains thought it folly to attempt to capture a great ship defended by a fortress and eleven galleys. Monson thought differently, and it was at length agreed that he and the admiral should anchor as near the carrack as they could, while the other and smaller vessels should ply up and down, holding themselves in readiness for any emergency. It is likely, as Southey remarks, that "the sight of these galleys reminded Sir William of the slavery he had endured at Lisbon in similar vessels, if not indeed in some of these identical craft, and he longed to take revenge upon them." Monson says that in order to show contempt of them, he separated from the rest of the fleet, by way of challenging and defying them. "The Marquis of St. Cruz, General of the Portuguese, and Frederick Spinola, General of the galleys, accepted the invitation, and put out with the intention of fighting him; but they were diverted from their purpose by a renegade Englishman, who knew the force of the vice-admiral's ship, and that she was commanded by Monson."

The town of Cerimbra lies at the bottom of a roadstead, which usually affords protection for shipping. It had at that time a strong fortress close to the beach, and a fortified castle, while there was a troop of soldiers ashore, whose numerous tents lined the coast. The galleys were partly covered or flanked by a neck of rock, and the batteries could play over them, thus affording them great protection, while they could themselves keep up a continuous fire at any approaching vessel. Again, Monson tells us, "there was no man but imagined that most of the carrack's lading was ashore, and that they would hale her aground under the castle where no ship of ours would be able to come at her—all which objections, with many more, were alleged, yet they little prevailed. Procrastination was perilous, and therefore, with all expedition, they thought convenient to charge the town, the fort, the galleys, and carrack, all at one instant." This was done next morning, although a gale sprung up about the time of the attack. The admiral weighed, fired the signal gun, hoisted his flag, and was the first at the attack; "after him followed the rest of the ships, showing great valour, and gaining great honour. The last of all was Monson himself, who, entering into the fight, still strove to get up as near the shore as he could, where he came to an anchor, continually fighting with the town, the fort, the galleys, and the carrack

all together; for he brought them betwixt him, that he might play both his broadsides upon them. The galleys still kept their prows towards him. The slaves offered to forsake them . . . and everything was in confusion amongst them; and thus they fought till five of the clock in the afternoon." Monson's stratagems and rapidity of action paralysed the commanders of the galleys, and the men rowed about wildly to avoid him, not knowing what to do. The admiral came on board his ship, and, embracing him in the presence of the ship's company, declared that "he had won his heart for ever."

And so the battle raged till the enemy showed such evident signs of weakness, that it was proposed to board the carrack. Here, however, the admiral interposed, as he wished to preserve the treasure on board. The ships were ordered to cease firing, and one Captain Sewell, who had been four years a prisoner on the galleys, from one of which he had only just escaped by swimming, was selected to parley with them. He was to promise honourable conditions, but insist that as the English held the roadstead, as several of the galleys were *hors de combat*, and the castle powerless, they must expect the worst in a case of refusal. The captain of the carrack would not treat with an officer who had so recently been a slave in their power, but sent a deputation of Portuguese gentlemen of quality, desiring that they should be met by those of similar rank in the English service. They were, of course, properly received, but having delivered their message, evinced a great desire to hasten back; they revealed the real state of affairs by admitting that it was a moot question on the carrack whether the parley ought to be entertained, or the vessel set on fire. Monson's promptitude once more saved the situation. Not waiting to hear any more, or receiving any instruction from Admiral Lewson, he ordered his men to row him to the carrack. Several officers on board recognised him, and the commander, Don Diego Lobo, a young man of family, motioning his men apart, received him courteously. After some little palaver, Monson informing Don Diego of the rank he held in the expedition, and assuring him of his high regard for the Portuguese nation, the real business of their interview was approached. Diego asked that he, his officers and men, should be put on shore that night; that the ship and its ordnance should be respected, and its flags remain suspended; the treasure he would concede to the victors. Monson agreed to the first proposition, excepting only that he required a certain number of hostages whom he would detain three days, but laughed at the idea of separating the ship and its contents; and stated that "he was resolved never to permit a Spanish flag to be worn in the presence of the Queen's ships, unless it were disgracefully over the poop." A long discussion followed, and Monson, who was determined to have his way, made a show of descending to his boat. His firmness won the day, and all his demands were eventually conceded, after which he conducted Don Diego and eight gentlemen on board his ship, "when they supped, had a variety of music, and spent the night in great jollity." This is Monson's account; it is doubtful whether the Portuguese were thoroughly enjoying themselves under the circumstances! When next day Sir William accompanied them on shore, he found the Count de Vidigueira at the head of a force numbering 20,000 men, whose services were not of much account now. The disgust ashore at the comparatively easy victory attained by the English may be imagined. Besides the capture of the carrack, two of the galleys were burnt and sunk; the captain of another was taken prisoner, and the others fled during the engagement, although they were afterwards shamed into returning by

the heroic behaviour of Spinola, who defended the carrack against desperate odds. The total loss of life in the town, castle, and vessels, although never accurately known, must have been immense, while the victory was purchased by the English with the loss of only six men, scarcely a larger number being wounded.

ACTION IN CERIMBRA ROADS.

The carrack, named the *St. Valentine*, was a vessel of 1,700 tons burthen; she had wintered at Mozambique on her return from the Indies, where a fatal malady killed the bulk of her crew; indeed, it is stated that out of more than 600 men scarce twenty survived the whole voyage. The Viceroy of Portugal sent the galleys before named to protect her, and put on board 400 volunteers. The value of this prize was close on £200,000. It is just to Monson to state that he offered Diego "permission to take out of her whatever portion of the freight he could conscientiously claim as his own." This proposal the proud young commander

declined. His life afterwards was a series of misfortunes. He was thrown into prison for losing the carrack; escaped from captivity only to languish an exile in Italy; and at last died just as fortune once more seemed to smile upon him by offering him a chance in his own king's service.

On the accession of James I. a general peace ensued so far as England was concerned. All in all, the rest was beneficial to the navy, and many defects were remedied and reforms inaugurated. In one of the earliest reports presented to the king on the condition of the navy, after enumerating certain pressing needs, we find the estimate for its *annual* expenditure placed at rather less than £21,000—an amount which a single ironclad would have swallowed up entirely, and got considerably into debt. James caused one fine vessel to be constructed, in 1610, in which every improvement known at the time was introduced. She was christened the *Prince Royal*. Stow describes her as follows:—"This year the king builded a most goodly ship for warre, the keel whereof was 114 feet in length, and the cross beam was forty-four feet in length; she will carry sixty-four pieces of ordnance, and is of the burthen of 1,400 tons. This royal ship is double built, and is most sumptuously adorned, within and without, with all manner of curious carving, painting, and rich gilding, being in all respects the greatest and goodliest ship that ever was builded in England; and this glorious ship the king gave to his son Henry, Prince of Wales; and the 24th September, the king, the queen, the Prince of Wales, the Duke of York, and the Lady Elizabeth, with many great lords, went unto Woolwich to see it launched; but because of the narrowness of the dock it could not then be launched; whereupon the prince came the next morning by three o'clock, and then at the launching thereof the prince named it after his own dignity, and called it the *Prince*." Phineas Pett, one of a family of leading naval constructors of those days, was its builder. A well-known authority* says, "Were the absurd profusion of ornament with which the *Royal Prince* is decorated removed, its contour or general appearance would not so materially differ from the modern vessel of the same size as to render it an uncommon sight, or a ship in which mariners would hesitate at proceeding to sea in, on account of any glaring defects in its form, that in their opinion might render it unsafe to undertake a common voyage in." A very large number of superior vessels were added to the royal navy during this epoch, but the commercial marine was in a bad way until late in James's reign. What its conviction was at this time may be gathered from the fact that in 1615, half way in the reign, there were not more than ten vessels of 200 tons burthen each in the port of London. Less than seven years afterwards, such was the improvement, that Newcastle alone could boast more than a hundred, each of which exceeded that tonnage.

During this peaceful epoch Monson had to fulfil an unthankful office as guardian of the narrow seas, *i.e.*, the English and Irish Channels, and adjacent waters. He had to transport princes and ambassadors while war was going on, and as it would seem from a paper included in his "Tracts," at his own expense. This document runs at a first glimpse very curiously. Take one entry, "1604, August 4. The constable of Castile at his coming over, 200 (followers) 3 (meals)." An unconscionable number of followers and very

* Charnock, "History of Naval Architecture."

few meals, it would seem, for so many; but it doubtless means three meals apiece on the passage from Calais or Dunkirk to Dover. The retinue of "followers" sometimes aggregated as many as 300. During this period, however, Monson made some careful notes on the Dutch fisheries, then a most important source of revenue to that nation, while ours were almost entirely overlooked. Nine thousand Dutch vessels were kept in constant employment by these fisheries, a considerable proportion of which were on our own coasts, and conducted under our very noses. He was employed at intervals for two years in combating similar encroachments on the part of French fishermen. "The adventurous spirit of the age," says Southey, "was averse to an employment so tranquil and so near home." Men would rather seek the uttermost parts of the earth in a vain search for wealth than settle down to a certain, safe, and profitable employment. Monson waxes eloquently indignant on the subject in one of his chapters. "My meaning is," he says, "not to leave our fruitful soil untilled, our seas unfrequented, our islands unpeopled, or to seek remote and strange countries disinhabited, and uncivil Indians untamed, where nothing appears to us but earth, wood, and water, at our first arrival; for all other hope must depend on our labour and costly expenses, on the adventures of the sea, on the honesty of undertakers; and all these at last produce nothing but tobacco*—a new-invented useless weed, as too much use and custom make it apparent. * * * * You shall be made to know, that though you be born on an island seated in the ocean, frequented by invisible fish, swimming from one shore to the other, yet your experience has not taught you the benefits and blessings arising from that fish. I doubt not but to give you that light therein, that you shall confess yourselves blinded, and be willing to blow from you the foul mist that has been an impediment to your sight; you shall be awakened from your drowsy sleep, and rouse yourselves to follow this best business that ever was presented to England, or king thereof; nay, I will be bold to say, to any state in the world. I will not except the discoveries of the West Indies by Columbus; an act of greatest renown, of greatest profit, and that has been of greatest consequence to the Spanish nation." Exaggerated as all this may appear, Monson was right in his estimation of the profitable nature of the business. At that time the Dutch used to vend their fish in every European market, and obtain in exchange the productions of all countries. Monson also remarks on the carelessness of the English at that time in regard to lobsters, oysters, and lampreys, all of which the Dutch obtained from our coasts. In order to encourage the fisheries an Act had been passed prohibiting butchers from killing meat in Lent, and Monson wished it to be made compulsory on the rural population to consume fish. "Neither," says he, "will it seem a thing unreasonable to enjoin every yeoman and farmer within the kingdom to take a barrel of fish for their own spending, considering they save the value thereof in other victuals; and that it is no more than the fisherman will do to them to take off their wheat, malt, butter, and cheese for their food to sea." This agitation did good in calling attention to a neglected industry. The great enemies of the fishermen then were the pirates who infested the coasts, and who, if they ran short of provisions, looked upon them as their natural providers, rarely,

* This contemptuous allusion refers of course to the tobacco brought from the newly-formed plantations in Virginia.

if ever, paying for what they took. And before passing to other subjects, let us accompany Monson—on paper—on a little expedition he took against some of the said pirates.

So considerable an amount of alarm had been caused by piratical adventurers on the coasts of Scotland, that King James was in 1614 urgently requested to send some royal ships there. Sir William Monson and Sir Francis Howard were despatched at once, and after calling at Leith to obtain information and also the service of pilots, proceeded to the Orkney Islands. Touching at Sinclair Castle, the residence of the Earl of Caithness, situate on "the utmost promontory" of Britain, they learned that the accounts had been much exaggerated. There were only two known to the Earl, and indeed one of them whom Monson took could hardly be deemed such at all; he was a common sailor, and when he had found out the nature of the service to which he had been engaged, he had abandoned it as soon as possible. Clarke, the other adventurer, to whom the title of pirate more fairly belonged, had been ashore to the castle a day previously, and had been entertained in a friendly way, the fact being that the Earl and his tenants were a little afraid of him as an ugly customer. Hearing that Sir William was on the coast, he had fled: Monson, therefore, finding it useless and needless to remain at Caithness, sailed for Orkney, where he left Sir Francis Howard while he proceeded to explore the coasts in detail, putting into every inlet where it was likely Clarke or other pirates might be hidden. He was unsuccessful in his search, and at length decided to make for Broad Haven—a noted rendezvous for pirates—partly on account of its remoteness and inaccessibility, and partly because one Cormat dwelt there, who, with his daughters, entertained these thieving adventurers with great cordiality. On the voyage he encountered a terrible gale, "that it were fit only for a poet to describe." One of his vessels was engulfed in the seas, and no traces of it or of its crew remained, while the others were dispersed and did not see each other again till all met in England. Monson had now alone to beard the lion in his den.

Arrived at Broad Haven, which he describes as "the well-head of all pirates," he made good use of the half-pirate he had secured, the only person on board who knew anything of that den of sea-thieves. This man, with some others of the crew who had had some experience in piratical pursuits before, were sent to Cormat, "the gentleman of the place," with a well concocted story. Monson was described, for the nonce, as one Captain Manwaring, a grand sea-rover, liberal to all he liked, and whose ship was full of wealth. "To give a greater appearance of truth to all this, the crafty messenger used the names of several pirates of his acquaintance, and feigned messages to the women from their sweethearts, making them believe that he had tokens from them on board. The hope of wealth and reward set the hearts of the whole family on fire; and the women were so overjoyed by the love tales and presents, that no suspicion of deceit entered into their minds." Cormat proffered his services, and recounted how many pirates he had assisted, at great peril to himself; he further volunteered to send two "gentlemen of trust" on board next day, as hostages for his sincerity. He recommended that some of them should come ashore next day, armed, and kill some of the neighbours' cattle; this was intended doubtless to frighten the poor settlers round, so that he himself might derive all the benefit of Manwaring's visit. Next morning the farce began, the first part of the programme being followed as Cormat had directed; Captain Chester, with fifty men, was despatched ashore by

MONSON AT BROAD HAVEN.

Monson; some cattle were killed, and the pseudo-pirates, swaggering and rollicking, were invited to Cormat's house, where they received a riotous welcome. Cormat's two ambassadors went on board Monson's vessel, and delivered a friendly message. When they had delivered it, Sir William desired them to observe everything around them carefully, and to tell him whether they thought that ship and company were pirates. It was idle to dissemble any longer, especially as these men could not, if they would, betray Sir William's design. He accordingly reproached them for their transgressions, told them to prepare for death, and ordered them to be put in irons, taking care that neither boat nor man should be allowed to go on shore until he was ready to land. When he at length went ashore to visit Cormat, four or five hundred people had assembled on the beach to receive the famous "Captain Manwaring." He pretended to be doubtful of their intentions, when they redoubled their protestations of friendship, three of the principal men running into the water up to their arm-pits, striving who should have the honour of carrying him ashore. One of these was an Irish merchant, who did a thriving trade with the pirates; another was a schoolmaster; and the third was an Englishman, who had formerly been a tradesman in London. These gentry conducted Sir William to Cormat's house amidst huzzas and shouts of welcome, everybody seeking to ingratiate himself with the supposed pirate. "'Happy was he,' says Monson, 'to whom he would lend his ear.' Falling into discourse, one told him they knew his friends, and though his name had not discovered it, yet his face did show him to be a Manwaring." In short, they made him believe he might command them and their country, and that no man ever was so welcome as Captain Manwaring. At the house a scene of revelry ensued; the harper played merrily for the company, who danced on the floor, which had been newly strewed with rushes for the occasion. The women made endless inquiries for their distant lovers, and no suspicion seems to have crossed the minds of any in regard to the fate of the two ambassadors, who were supposed to be enjoying themselves with the sailors on board. In the height of the festivities, the Englishman was particularly communicative; showed Sir William a pass for the interior which he had obtained by false pretences from the sheriff, authorising him to travel from Clare to make inquisition for goods supposed to have been lost at sea, and which enabled him to journey and sell his plunder without suspicion. He even proffered the services of ten mariners who were hiding in the neighbourhood, and Monson, of course, pretended heartily to accept their services, promising a reward. He asked the man to write them a letter, which at once he did as follows:—"Honest brother Dick and the rest, we are all made men, for valiant Captain Manwaring and all his gallant crew are arrived in this place. Make haste, for he flourisheth in wealth, and is most kind to all men. Farewell, and once again make haste." Monson took charge of the letter, and would, doubtless, have used it, had not the approach of night obliged him to bring about the *denouement* of this play. The comedy was all at once to change into a tragedy.

In the midst of their riotous mirth, he suddenly desired the harper to cease, and in serious and solemn tones commanded silence. He told them that, hitherto, "they had played their part, and he had no share in the comedy; but though his was last, and might be termed the epilogue, yet it would prove more tragical than theirs." He undeceived them as to his being a pirate, and declared his real business was to punish and suppress all such, whom his

Majesty did not think worthy the name of subjects. "There now remained nothing but to proceed to their executions, by virtue of his commission; for which purpose he had brought a gallows ready framed, which he caused to be set up, intending to begin the mournful dance with the two men they thought had been merry-making aboard the ship. As to the Englishman, he should come next, because being an Englishman his offence did surpass the rest. He told the schoolmaster he was a fit tutor for the children of the devil, and that as members are governed by the head, the way to make his members sound was to shorten him by the head, and therefore willed him to admonish his scholars from the top of the gallows, which should be a pulpit prepared for him. He condemned the merchant as a receiver of stolen goods, and worse than the thief himself; reminding him that his time was not long, and hoping that he might make his account with God, and that he might be found a good merchant and factor to Him, though he had been a malefactor to the law." One can imagine the change which came over the assembly; all their high spirits were quenched in a minute, while the principals abandoned themselves to despair, believing that their hour was at hand. When Sir William left them to go aboard, the carpenter was still hammering away at the gallows.

Next morning the prisoners were brought out to meet their doom, and were kept waiting in an agony of terror, while the people generally were sueing for their lives, and promising that they would never assist or connive at pirates again. Sir William had never really the intention to hang any of them, and "after four-and-twenty hours' fright in irons he pardoned them;" the Englishman being the only one who suffered any actual punishment. He was banished from the coast, and the sheriff was admonished to be more careful in granting passes for the future.

The very next day, while still at Broad Haven, Sir William nearly captured a pirate who was entering the harbour, when the latter took alarm at seeing a strange vessel, and stood off to sea, where he remained six days in foul weather. A day later the pirate anchored at an island near Broad Haven, and contrived to forward a letter to Cormat, who having just escaped one danger, did not desire to risk his neck again; he accordingly showed the letter to Monson. It ran as follows:—"Dear Friend, I was bearing into Broad Haven to give you corn for ballast, but I was frightened by the king's ship I supposed to be there. I pray you send me word what ship it is, for we stand in great fear. I pray you, provide me two kine, for we are in great want of victuals; whensoever you shall make a fire on shore, I will send my boat to you." This just suited Monson, who had a particular aptitude for stratagem. He directed Cormat to answer his request in the affirmative. "He bid him be confident this ship could not endanger him; for she was not the king's, as he imagined, but one of London that came from the Indies with her men sick, and many dead. He promised him two oxen and a calf; to observe his directions by making a fire; and gave him hope to see him within two nights." A few of the ship's company, disguised in Irish costumes of the period, were sent to accompany the messenger, with instructions to remain in ambush. The hungry pirates were keeping a sharp look out for the beacon fire, and it was no sooner lighted, than they hastily rowed ashore, and received the letter, which gave them great satisfaction. Sir William meanwhile was quietly laying plans for their capture. Guided by the Irish peasantry, he took a number of his company a roundabout trip by land

and water till he brought them suddenly upon the place where the fire was made, and the pirates were taken so unawares that they yielded without an effort to escape. The whole gang was seized and taken to Broad Haven, where the captain was hanged as an example to the rest. Monson so completely cleared the coast of pirates, and frightened those who had aided them, that on his way home, "groping along the coast," he could not obtain a pilot. Monson's active career, although it extended to the reign of Charles I., was now nearly over.

CHAPTER II.

The History of Ships and Shipping Interests (*continued*).

Charles I. and Ship Money—Improvements made by him in the Navy—His great Ship, the *Royal Sovereign*—The Navigation Laws of Cromwell—Consequent War with the Dutch—Capture of Grand Spanish Prizes—Charles II. seizes 130 Dutch Ships—Van Tromp and the Action at Harwich—De Ruyter in the Medway and Thames—Peace—War with France—La Hogue—Peter the Great and his Naval Studies—Visit to Sardam—Difficulty of remaining *incognito*—Cooks his own Food—His Assiduity and Earnestness—A kind-hearted Barbarian—Gives a Grand Banquet and *Fête*—Conveyed to England—His Stay at Evelyn's Place—Studies at Deptford—Visits Palaces and Public Houses—His Intemperance—Presents the King a £10,000 Ruby—Engages numbers of English Mechanics—Return to Russia—Rapid increase in his Navy—Determines to Build St. Petersburg—Arrivals of the First Merchantmen—Splendid Treatment of their Captains—Law's Mississippi Scheme and the South Sea Bubble—Two Nations gone Mad—The "Bubble" to Pay the National Debt—Its one Solitary Ship—Noble and Plebeian Stockbrokers—Rise and Fall of the Bubble—Directors made to Disgorge.

Charles I., as we all know, had a fatal amount of belief in the royal prerogative. One of his first acts, after ascending the throne, was to assume the direct government of Virginia, and not only to treat the charter of the company as annulled, "but broadly declared that colonies founded by adventurers, or occupied by British subjects, were essentially part and parcel of the dominion of the mother country." The Virginia Company vainly complained that they had expended a fifth of a million sterling over the undertaking; their territory was appropriated to the Crown, as were shortly afterwards North and South Carolina, Georgia, Tennessee, and part of Louisiana. But these arbitrary acts were as nothing to the ship-money tax. There was some precedent for it. "The ancient princes of England, as they called on the inhabitants of the counties near Scotland to arm and array themselves for the defence of the border, had sometimes called on the maritime counties to furnish ships for the defence of the coast. In the room of ships, money had sometimes been accepted. This old practice it was now determined, after a long interval, not only to revive but to extend. Former princes had raised ship-money only in time of war; it was now exacted in a time of profound peace. Former princes, even in the most perilous wars, had raised ship-money only along the coasts; it was now exacted from the inland shires. Former princes had raised ship-money only for the maritime defence of the country; it was now exacted, by the admission of the Royalists themselves, with the object, not of maintaining a navy, but of furnishing the king with supplies which might be increased at his discretion to any amount, and expended at his discretion for any purpose."* The resistance which followed, and which

* Macaulay: "History of England."

assisted the unfortunate monarch to his downfall, is too well known to need recapitulation here. Worthy Monson, who, although bluff and hearty enough as a sailor, was something of a courtier, defended the levy of the obnoxious tax. But then he believed that Charles really wanted the money for the navy alone, and for retaliation upon the Dutch, while the nation at large had not much faith in their king, or in the alleged purposes for which the tax was to be levied. This is not the place for any defence, partial or otherwise, of Charles's policy. He did, however, show a considerable amount of energy in his attempts to improve the navy, and constructed one vessel, the *Sovereign of the Seas*, or *Royal Sovereign*, which was in every respect an advance on anything built before it. One Thomas Heywood wrote a very learned and flowery tract concerning it. "There is one thing" says he, "above all things for the world to take speciall notice of, that shee is beside tonnage so many tons in burden, as their have beene yeares since our blessed Saviour's incarnation, namely, 1637, and not one under or over; a most happy omen, which, though it was not the first projected or intended, is now by true computation found so to happen." A description of her ornamentation would occupy several pages of this work; gold and black were the colours alone employed. She was 232 feet long, had three flush decks, besides quarter-deck and raised forecastle. "Her lower tyre" had thirty ports; her middle tier the same; and the third, twenty-six ports for guns. Her forecastle, half-deck, stern, and bows were all pierced for heavy guns—that is, heavy for those days. On the stern was painted a Latin inscription, thus "Englisht," as Heywood puts it:—

> "He who seas, windes, and navies doth protect,
> Great Charles, thy great ship in her course direct!"

She was built of the best oak, and no more seaworthy ship had ever been turned out from Woolwich previously. The *Royal Prince*, built only nineteen years before, seems to have been a mere holiday ship, and was at the above-mentioned date laid up; the *Royal Sovereign* was in active service for nearly sixty years, and would have been rebuilt but for an untoward accident. The history and fate of this fine ship are thus briefly described by a descendant of the architect, Phineas Pett, writing in January, 1696:—

"The *Royal Sovereign* was the first great ship that was ever built in England; she was then designed only for splendour and magnificence, and was in some measure the occasion of those loud complaints against ship-money in the reign of Charles I.; but being taken down a deck lower, she became one of the best men-of-war in the world, and so formidable to her enemies that none of the most daring among them would willingly lie by her side. She had been in almost all the great engagements that had been fought between France and Holland; and in the last fight between the English and the French, encountering the *Wonder of the World*, she so warmly plied the French Admiral, that she forced him out of his three-decked wooden castle, and chasing the *Royal Sun* before her, forced her to fly for shelter among the rocks, where she became a prey to lesser vessels, that reduced her to ashes. At length, leaky and defective herself with age, she was laid up at Chatham to be rebuilt; but being set on fire by negligence, she was, on the 27th of this month, devoured by the element which so long and so often before she had imperiously made use of as the instrument of destruction to others."

Charles, in spite of his troubles, either rebuilt or added eighteen vessels to the Royal Navy, leaving it not merely numerically stronger, but improved in all other particulars. The immense square sterns and full bows originally copied from the Dutch (who built their ships apparently on their own model) gave place to more shapely sterns and sharper bows. Extremely high poops and forecastles—copied, one would think, from the Chinese—were abandoned as increasing the dangers of seamanship. Tonnage and number of guns were largely increased. A "first rate" advanced from fifty to sixty, and afterwards to a hundred guns.

Holland, during the reigns of James I. and Charles I., had been carrying off all the commercial honours from England, and it was becoming evident that prohibitory laws were needed to stop their triumphant progress on the sea. In 1646, and again in 1650, two Acts were passed, both having the same tendency, to prevent foreign ships trading with England's new plantations in Virginia, Bermuda, Barbadoes, "and other places in America."* On the 9th of October, 1651, the celebrated Navigation Act of Cromwell came into operation. There were no half measures in that Act. It declared that no goods or commodities whatever of the growth, production, or manufacture of Asia, Africa, or America, should be imported either into Great Britain or Ireland, or any of the colonies, except in *British-built ships, owned by British subjects, and of which the master and three-fourths of the crew belonged to that country.* This, literally translated, meant that England wanted the carrying trade of everything that concerned her own well being. The next enactment went further. It provided that no goods of the growth, production, or manufacture of any country in Europe should be imported into Great Britain except in British ships, owned and navigated by British subjects, "*or in such ships as were the real property of the people of the country or place in which the goods were produced, or from which they could only be, or most usually were, exported.*" This provision was aimed at the Dutch; they had little to export. But unless one can understand the long-stifled animosity and jealousy felt in England regarding their commercial supremacy on the seas, and as regards the carrying trade, he can hardly understand why laws, which would nowadays be considered ridiculous and unjust, were so popular then. So strong had these feelings become, that when the Dutch despatched an embassy to England for the purpose of obtaining a revocation of the navigation laws, its members had to be guarded from the violence of the mob.

England had now unmistakably asserted her right to carry on her own over-sea trade in her own ships, and to enter the lists with any other nation as regards foreign trade. This action was a defiance hurled at Holland, and after a little manœuvring ended inevitably in war. A few facts only regarding that war may be permitted here. The Dutch were at first, and indeed for the most part, the sufferers. Within a month of its declaration, Blake captured 100 of their herring boats, and twelve of their frigates, sinking a thirteenth. In 1652–3 there were five actions. In the first Blake was successful; in the second he was thoroughly beaten by Martin Tromp (father of the Tromp best known in history). The third, early in 1653, resulted in a victory for the English, the Dutch losing 300 merchantmen they had captured not long before; the fourth was a decided victory for England, and the

* The term "America" often included the West Indies, &c., at that period.

fifth was an indecisive action. The English, however, took possession of the Channel, and scarcely a day passed without Dutch prizes being brought into English ports. Many of the Dutch ships, returning from distant parts of the world, rounded Scotland, rather than pass up the Channel. On the fifth of April, 1654, a treaty of peace was concluded; Cromwell requiring, before it was signed, an admission of the English sovereignty of the seas, and the Dutch consenting to strike their flag to the ships of the Commonwealth.

One of the greatest maritime successes of the Protector's time was the capture of Spanish galleons worth, with their freight, £600,000. The fleet had been lying idly off Cadiz endeavouring to provoke the Spanish squadron to an engagement, or trusting to intercept their returning treasure ships. Captain Stayner in the *Speaker*, accompanied by the *Bridgewater* and *Plymouth*, left the English fleet temporarily with the intention of taking water on board in a neighbouring bay. On his course he luckily fell in with eight galleons from America. Such an opportunity warmed up the hitherto drooping spirits of the English sailors, and they fought with fury. In a few hours one of the galleons was sunk, a second burned, two ashore, and four taken prizes. They were loaded with plate, ore, and money. When the treasure reached London it was placed in open carts and ammunition wagons, and carried in triumph through the streets to the Tower, with a guard of only *ten* soldiers. This rather ostentatious display of confidence in the people proved an excellent move for Cromwell; nothing added more to his popularity among the lower classes. The Earl of Montague, who convoyed it home, but who in reality had nothing to do with its capture, was the subject of universal panegyrics and parliamentary thanks.

If Charles II. could have reversed any of Cromwell's legislative measures, he and his court would most assuredly have done so. But they were simply modified, and not to the advantage of the Dutch, who were very much irritated, but attempted to gain time. Charles, however, without waiting for a formal declaration of hostilities, seized 130 of their ships laden with wine and brandy, homeward bound from Bordeaux, which were taken into English ports, and condemned as lawful prizes, although such an act could not be justified by any law of nations. War was again declared in 1665, and an action occurred off Harwich, in which the celebrated Van Tromp was engaged. The Dutch lost nineteen ships, burnt or sunk, with probably 6,000 men; the English lost only four vessels, and about 1,500 men. Then came a coalition between the French and Dutch, and the great battle of June 1st, 1666, in which England lost two admirals, and twenty-three great ships, besides smaller vessels, 6,000 men, and 2,600 prisoners; and the Dutch four admirals, six ships, and 2,800 soldiers. The Dutch could fairly claim the victory here, but less than eight weeks later, July 24th, were thoroughly beaten, De Ruyter being driven into port, and a large number of merchant ships and two men-of-war being taken immediately afterwards. While negotiations were going on for peace next year, the Dutch, believing Charles to be trifling, despatched De Ruyter to the Thames. All London was in a panic. A strong chain had been thrown across the Medway, but the Dutch, with favourable wind and strong tide, broke through it, destroyed the fortifications of Sheerness, burnt royal and merchant ships, and pushed up the river as far as Upnor Castle, near Chatham. It was even feared that the fleet would sail up to London Bridge, and to prevent it, thirteen ships were sunk in the river at Woolwich, and four at Blackwall. Numerous platforms furnished with artillery were

hastily prepared at various points. After committing all the damage that he could in the Thames, De Ruyter sailed for Portsmouth, intending to cause similar havoc, but finding the fleet well prepared, he passed down the Channel and captured several vessels at Torbay. Thence turning back, he hovered about hither and thither, keeping the coast in continual alarm until the treaty of peace was signed in the following summer. By its provisions each nation retained the goods and prizes it had captured, while all ships of war and merchant vessels belonging to the United Provinces meeting our men-of-war in British

DE RUYTER ON THE MEDWAY.

waters, were required to "strike the flag and lower the sail as had been formerly practised." From this date the merchant navy of England steadily increased, and London became that which Amsterdam had been, the mart of nations, the chief emporium of the commercial world. In spite of De Ruyter, England had therefore greatly gained by this war.

And now France sought to pluck from England the laurels she had won from the Dutch. Her naval force had become formidable, and augmented by privateers, played havoc with our merchant vessels. By the destruction or capture of nearly the whole of our Smyrna fleet, with two English ships of war convoying them, and other captures, it was estimated that the loss to England was a million sterling. But May 12th, 1692, brought its revenge. On that day the memorable battle of La Hogue was fought, and the French lost nearly the whole of their navy to us.

H.M.S. *VANGUARD* AT SEA.

From 1688 to the death of Queen Anne, the trade of the American plantations had steadily and rapidly increased, till at the latter date it employed 500 vessels, a large proportion of which were engaged in the slave trade from Africa. It started as a monopoly in the hands of the African Company, incorporated at first under Act of Parliament as traders in gold and ivory, but soon developing into traffickers in human flesh. In 1698 an Act of Parliament gave permission to all the king's subjects, whether of England or America, to trade to Africa on payment of a certain percentage to the company on all goods exported or imported, negro slaves being, nevertheless, exempted from this tax. How great this

PETER THE GREAT.

inhuman and nefarious trade had developed may be gathered from the fact that the French, *in one year*, and to supply *one* island, that of St. Domingo, transported 20,000 slaves from Africa.

Passing rapidly over the pages of history, we come to an important epoch in the progress of merchant shipping, when the trade to Russia was practically thrown open to our merchants by an Act "entitling any person to admission to the Russia Company upon payment of an entrance fee of five pounds." It was about this time that the Czar abdicated temporarily, and made a voyage to Holland and England, travelling *incognito*, or as much so as he could. Many popular accounts of Peter the Great's stay in these two countries are so full of errors that the present writer may be permitted to give, moderately in

detail, some account of them, derived from the best authorities.* They have a distinct bearing on our subject, not merely because one of Peter's leading objects was the study of ship-building and maritime affairs, but because his studies led to an immense increase in Russia's naval power. Previously, in fact, she could hardly be said to have had any at all.

In many published accounts the Czar is represented as a mere youth at the period of his visit to the dockyards of Holland and England. The fact is that he was twenty-five years of age, and had already served in two campaigns. Indeed, it may be said that the latter campaign, in which he conquered Azoff, partly by the assistance of foreigners and ships built by foreigners, was the means of opening his eyes to the superiority of the Western Europeans over his own barbarous subjects. Resolute, ambitious, and intelligent, he determined that his people should not remain half savages. Influenced by such motives, he dispatched, in 1697, sixty young Russians, selected out of the army, to Venice and Leghorn, under orders to make themselves instructed in everything pertaining to the arts of ship-building and navigation; forty more were sent to Holland for the same purpose, and his own voyage had largely the same object. "It was a thing," says Voltaire, unparalleled in history, either ancient or modern, for a sovereign of five-and-twenty years of age to withdraw from his kingdom for the sole purpose of learning the art of government." It happened that Peter was not as yet represented at any of the foreign courts, and he therefore appointed an embassy extraordinary to proceed, in the first instance, to the States-General of Holland, while he would accompany it simply in the character of an *attaché*. The three ambassadors were General Le Fort, a native of Geneva, who had been of immense service to the Czar, and was now his confidential friend; Alexis Golowin, Governor of Siberia; and Voristzin, Secretary of State for Foreign Affairs. With secretaries, attachés, pages, and guards, the retinue numbered 200 persons. Their passage through Germany was a grand carouse, and the hard drinking for which the Russians are still noted, was very much observed. At one of these bacchanalian debauches, the Czar, who was a hot-headed man, took such violent offence at something said by Le Fort, that he drew his sword and ordered him to defend himself. "Far be it from me," said Le Fort; "rather let me perish by the hand of my master." Peter had raised his arm, but one of the retinue dared to interfere, and caught hold of it. Peter's anger was of short duration; he displayed, says Voltaire, "*autant de regret de cet emportement passager qu'Alexandre en eut du meurtre de Clitus*," and immediately asked Le Fort's pardon, saying, "that his great desire was to reform his subjects, but he was ashamed to say he had not yet been able to reform himself."

Having reached Emmerich, the impetuous and youthful monarch left the embassy, and proceeded in a boat down the Rhine, not halting till he reached Amsterdam, "through which," says one authority, "he flew like lightning, and never once stopped till he arrived at Zardam,† fifteen days before the embassy reached Amsterdam." One of his small party

* The principal authorities are—"The History of Peter the Great, &c.," by Alexander Gordon, who was several years a major-general in the Russian service, and was son-in-law of the General Patrick Gordon who may be said to have once saved Russia to the Czar; "Histoire de Pierre le Grand," by Voltaire; and the "Life of Peter the Great," by John Barrow, F.R.S., &c. A modern French writer has given a catalogue of ninety-five authors of some little note who have treated of Peter's life.

† This name is spelled by the various authorities in many ways; sometimes it is Zaardam.

in the boat happened to recognise a man there who was fishing in a boat, as one Kist, who had worked for some time in Russia. He was called to them, and his astonishment may be conceived at seeing the Czar of all the Russias in a little boat, dressed like a Dutch skipper, in a red jacket and white trousers. Peter told Kist that he should like to lodge with him; the poor man did not know what to do, but finding the Czar in earnest procured him a cottage behind his own, consisting of two small rooms and a loft. Kist was instructed not to let any one know who the new lodger was. A crowd collected to stare at the strangers; and to the questions put to them, Peter used to answer in Dutch that they were all carpenters and labourers hard up for a job. But the crowd did not believe it, for the dresses of some of his companions belied the statement. The Czar, shortly after arriving at Zardam, paid visits to a number of the families of Dutch seamen and carpenters whom he was employing at Archangel and elsewhere, representing himself as a brother workman. Among others he called upon a poor widow, whose deceased husband had once been a skipper in his employ, and to whom he had some time before sent a present of 500 guilders. The poor woman begged him to tell the Czar how "she never could be sufficiently thankful" for his great kindness, little dreaming that the rough-looking young man before her was that monarch. He assured her that the Czar should most certainly be acquainted with her message. Peter proceeded to purchase a quantity of carpenter's tools, and his companions were ordered to clothe themselves in the common garb worn in the dockyards.

Next day was Sunday, and it became evident that some one had let the cat more or less out of the bag, for crowds of sailors and dock-hands assembled before Peter's lodgings, which annoyed him terribly. But the fact is that a Dutch resident of Archangel had written home to his friends, informing them of the projected voyage, and enclosing a portrait and description of the Czar. Among the crowd a garrulous barber, who believed he had recognised him, shouted out, "Dat is der Tzar!" and all poor Peter's little stratagems could not save him from the curiosity of the populace. A Hollander has left a description of him, which would indicate that he was too noticeable to be mistaken by any who had once seen him. He was very tall and robust, quick and nimble of foot, and dexterous and rapid in all his actions; his face was plump and round, fierce in his look, with brown eyebrows, and short curling hair of a brownish colour. His gait was quick, and he had a habit of swinging his arms violently, while he always carried a cane, which he occasionally used very freely over the shoulders of those who had offended him. "His extraordinary rapidity of movement in landing or embarking used to astonish and amuse the Dutch, who had never before witnessed such '*loopen, springen, en klauteren over der schepen.*'"

When the embassy entered Amsterdam formally, Peter took part in the procession, but only as a private gentleman in one of the last carriages, and he was not recognised. But little of his time was given to the ambassadors; it was almost entirely spent in the docks, among shipbuilders, and on the shipping, and in sailing about the Zuyder Zee and elsewhere, where he was accustomed to carry so much sail on his little boat as to alarm his companions for his safety. "His first exploit in the dockyard of Mynheer Calf, a wealthy merchant and shipbuilder, with whom he was prevailed on to lodge, after quitting his first cabin, was to purchase a small yacht, and to fit her with a new bowsprit, made

THE IMPERIAL WORKMAN RECEIVING A DEPUTATION.

entirely with his own hands, to the astonishment of all the shipwrights; they could not conceive how a person of his high rank could submit to work till the sweat ran down his face, or where he could have learned to handle the tools so dexterously." While in the dockyard he was entered in the books as a ship-carpenter, and conformed in every way to its regulations. He was known among the workman as Pieter Zimmerman, sometimes as Pieter Bass, or Master Peter. Dutch authorities speak of his simple habits; he was an early riser, lighted his own fire, and frequently cooked his own food while living in the cottage. When any one wished to speak to him, "he would go with his adze in his hand, and sit down on a rough log of timber for a short time, but seemed always anxious to resume and

OLD DOCKYARD AT DEPTFORD.

finish the work on which he had been employed." An English nobleman visited the yard, and asked the superintendent to point out the Czar to him unnoticed. This was done, and the superintendent, seeing that the Czar was resting for a moment, called out to him, "Pieter Zimmerman, why don't you assist those men?" Peter immediately got up and helped to shoulder the heavy log they were carrying. He would lend a helping hand at everything connected with ships, even rope and sail making, and smith's work. Once, at Müller's manufactory, at Istia, he forged several bars of iron, and put his own mark on them, making his companions blow the bellows and fetch the coals. The Czar insisted upon receiving the same payment as the other workmen, and bought a pair of shoes with the money, remarking "I have earned them well, by the sweat of my brow, with hammer and anvil." Peter finished his labours at ship-carpentering by assisting to put together a yacht, which, at the suggestion of one of the burgomasters, was to be presented to him as a *souvenir* of his visit to Holland. He

worked at it every day till it was finished, when he christened it the *Amsterdam*. His numerous investigations into science included surgery, and he carried his instruments about with him, ever ready to pull a tooth, or bleed, or even tap a patient for the dropsy. In short, his desire for practical knowledge was insatiable. Ten times a day, while accompanying his friend Calf and others about the ships, and yards, and factories, and mills, he would ask, "Wat is dat?" and being told, would answer, "Dat wil ik zien," —"I shall see that." His companions were not half so earnest as their master, and after awhile they hired a large house, kept a professed cook, and enjoyed themselves in idleness.

While in Holland, the news arrived of a Russian victory over the Turks and Tartars, and the imperial workman received the congratulations of the Emperor of Germany, the Kings of Sweden, Denmark, and other countries. He celebrated the event by giving a grand entertainment to the principal officials and merchants of Amsterdam, their wives and daughters. "The sumptuous dinner was accompanied and followed by a band of music, and in the evening were plays, dancing, masquerades, illuminations, and fireworks. His respectable friend, Witsen, told him that he had entertained his countrymen like an emperor." And now, after nine months' hard work at Zardam, he had an interview with King William at the Hague, who arranged to transport him and his suite in one of the royal yachts, accompanied by two men-of-war.

No secret was made of the Czar's rank in London, although he tried to live as privately as possible. He was placed under the special charge of the Marquis of Carmarthen, and a great intimacy sprang up between them. A large house was hired for him and his suite at the bottom of York Buildings, where the marquis and he used to spend their evenings together frequently in drinking "hot pepper and brandy." But then a pint of brandy and a bottle of sherry was nothing uncommon as a morning draught for the Czar. After seeing all the sights of London, he paid visits to Chatham, Portsmouth, and elsewhere, but the larger part of his time was spent at Deptford, where he repaired to investigate and learn the higher branches of naval architecture and navigation. There is little or no evidence, popular tradition to the contrary notwithstanding, that he ever worked as a shipwright there,* or engaged in more laborious employment than rowing, or in sailing yachts and boats about the Thames. The writer has before him now one of the conventional pictures of "Peter at Deptford." It represents a smooth-faced youth of feminine appearance, and about sixteen years old at most, vigorously engaged, apparently, in doing damage to a ship's bulwarks with a gigantic hammer and formidable spike. The fact is that Peter was in his twenty-sixth year, had been the ruler of a great empire for several years, and was beyond his years in acquirements and earnestness; a man of strong passions, and sadly given to drink. Peter was glad to get out of town. Crowds gave him an amount of annoyance that was inexplicable to a Londoner; and he avoided, as much as he could, balls and assemblies and public gatherings for the same reason. Nor could he have desired a more pleasant and suitable place than that which was provided for him, the

* One account says, indeed, that he worked with his own hands as hard as any man in the yard. "If so," says Barrow, "it could only have been for a very short time, and probably for no other purpose than to show the builders that he knew how to handle the adze as well as themselves."

celebrated Saye's Court, Evelyn's charming house and grounds* close to Deptford Dock-yard, which had just become vacant by the removal of Admiral Benbow, who had been its tenant. A special doorway was broken through the boundary wall of the dockyard to facilitate communication for the Czar. Benbow had given poor Evelyn much dissatisfaction, but the new occupant was rather worse. His servant wrote to him, "There is a house full of people, right nasty. The Tzar lies next your study, and dines in the parlour next your

SAYE'S COURT, DEPTFORD.

study. He dines at ten o'clock, and six at night; is very seldom at home a whole night; very often in the king's yard, or by water, dressed in several dresses. The king is expected there this day; the best parlour is pretty clean for him to be entertained in. The king pays for all he has." But, alas for poor Evelyn's hedges! The Czar, by way of exercise, and to prove his strength, used to trundle a wheel-barrow, full tilt, through a favourite holly-hedge, "which," says Evelyn, "I can still show in my ruined gardens at Saye's Court (thanks to the Tzar of Muscovy)." The Czar employed his days in acquiring information on all branches of naval architecture, and in sailing about the river with

* The site of Evelyn's mansion was long covered with a workhouse; the shady walks and splendidly kept hedges are now replaced by a victualling yard, where oxen and hogs are slaughtered for the use of the navy, and the transformation of all his haunts in the neighbourhood has been unpleasantly complete.

Carmarthen and Sir Anthony Deane, commissioner of the navy. "The Navy Board received directions from the Admiralty to hire two vessels to be at the command of the Tzar whenever he should think proper to sail on the Thames," and the king made him a present of a small vessel, the *Royal Transport*, giving orders to have such alterations and accommodations made in her as the Czar might desire. "But his great delight was to get into a small-decked boat, belonging to the dockyard, and taking only Menzikoff, and three or four others of his suite, to work the vessel with them, he being the helmsman; by this practice he said he should be able to teach them how to command ships when they got home. Having finished their day's work, they used to resort to a public house in Great Tower Street, close to Tower Hill, to smoke their pipes, and drink beer and brandy. The landlord had the Tzar of Muscovy's head painted and put up for his sign." The original sign remained till 1808.

Greenwich Hospital surprised him, and King William, having one day asked him how he liked his hospital for decayed seamen, Peter answered simply, "If I were the adviser of your Majesty, I should counsel you to remove your court to Greenwich, and convert St. James's into a hospital." In the first week of March a sham naval fight was organised near Spithead, for his amusement, eleven ships being engaged. The *Postman*, a journal of the period, says, "The representation of a sea engagement was excellently performed before the Tzar of Muscovy, and continued a considerable time, each ship having twelve pounds of powder allowed; but all the bullets were locked up in the hold, for fear the soldiers should mistake." The enterprising journal did not, probably, send down a special representative, as would any leading paper of to-day, and the small quantity of powder allowed must be a mistake. The Czar was greatly pleased with the performance, and told Admiral Mitchell, who arranged the performance, that "he considered the condition of an English admiral happier than that of a Tzar of Russia." On their way home from Portsmouth, the Russian party, twenty-one in all, stopped a night at Godalming. The sea air had done so much good to their appetites that at dinner they managed to get through an entire sheep, three quarters of lamb, five ribs of beef, weighing three stone, a shoulder and loin of veal, eight fowls, eight rabbits, two dozen and a half of sack, and one dozen of claret. Their light breakfast consisted of half a sheep, a quarter of lamb, ten pullets, twelve chickens, seven dozen eggs, salad "in proportion," three quarts of brandy, and six quarts of mulled wine.

When residing at Deptford, he made the acquaintance of the celebrated Dr. Halley, "to whom he communicated his plan of building a fleet, and in general of introducing the arts and sciences into his country," and asked his opinions and advice on various subjects. The doctor spoke German fluently, and the Tzar was so much pleased with the philosopher's conversation and remarks that he had him frequently to dine with him; and in his company he visited the Royal Observatory in Greenwich Park. An important concession was made by him to some leading merchants, through the influence of the Marquis of Carmarthen. Tobacco had been so highly taxed that none but the wealthy Russians could afford it. The Czar agreed that on paying him down £12,000 (some accounts say £15,000) it should go in duty free. He stipulated that his friend Carmarthen should receive five shillings for every hogshead so admitted. Peter stuck to his friends, and

his kindheartedness in general does much to obliterate the memory of some traits of character which are not to his credit. On leaving England, he "gave the king's servants, at his departure, one hundred and twenty guineas, which was more than they deserved, they being very rude to him," says one plain-speaking historian. To the king he presented a rough ruby which the jewellers of Amsterdam had valued at £10,000 sterling. Peter carried this gem to King William in his waistcoat pocket, wrapped up in a piece of brown paper. The king had treated him in a royal fashion, so far as Peter would allow him, and before he departed induced him to sit to Sir Godfrey Kneller for his portrait, which is now at Windsor. Four yachts and two ships of the Royal Navy were placed at his disposal when he departed once more for Holland. Peter took with him to Russia three English captains who had served in the Royal Navy, twenty-five captains of the merchant service, thirty pilots, thirty surgeons, two hundred gunners, and a number of mechanics and smiths, making a total of little less than five hundred persons, all natives of Great Britain. A letter from one of them to a relative in England shows how much Peter did, almost immediately on his return to Russia, in the interests of his navy. He had already thirty-six ships of war: twenty, ranging from thirty to sixty guns each, were to be launched the following spring; eighteen galleys were being constructed by Italian workmen, and one hundred smaller vessels were on the stocks. The forests of masts he had seen at London and Amsterdam had fired his ambition, and we now find him not merely determined to have a navy, but a port of the first class. Hence St. Petersburg.

Passing over events in the history of Peter the Great not bearing on maritime subjects, we learn that "Five months had scarcely elapsed from laying the first stone of St. Petersburg, when a report was brought to the Tzar that a large ship, under Dutch colours, was standing into the river. It may be supposed this was a joyful piece of intelligence for the founder. It was nothing short of realising the wish nearest his heart: to open the Baltic for the nations of Europe to trade with his dominions, it constituted them his neighbours; and he at once anticipated the day when his ships would beat the Swedish navy, and drive them from a sea on which they had long ridden triumphant with undivided sway. When Peter was employed in building his fleet at Voronitz, Patrick Gordon one day asked him, 'Of what use do you expect all the vessels you are building to be, seeing you have no seaports?' 'My vessels shall make ports for themselves,' replied Peter, in a determined tone; a declaration which was now on the eve of being accomplished.

"No sooner was the communication made, than the Tzar, with his usual rapidity, set off to meet this welcome stranger. The skipper was invited to the house of Menzikoff: he sat down at table, and to his great astonishment, found that he was placed next the Tzar, and had actually been served by him. But not less astonished and delighted was Peter on learning that the ship belonged to, and had been freighted by his old Zaardam friend, with whom he had resided, Cornelius Calf. Permission was immediately given to the skipper to land his cargo, consisting of salt, wine, and other articles of provisions, free of all duties. Nothing could be more acceptable to the inhabitants of the new city than this cargo, the whole of which was purchased by Peter, Menzikoff, and the

several officers, so that Auke Wybes, the skipper, made a most profitable adventure. On his departure he received a present of five hundred ducats, and each man of the crew, one hundred rix-dollars, as a premium for the first ship that had entered the port of St. Petersburg."* The second ship to arrive was also Dutch; the third was an English vessel; both received the same premium. The rapidity with which the swampy banks of the Neva were covered with wharfs and buildings has been almost unexampled in history. Peter had Amsterdam in his eye when he laid out St. Petersburg, and he had secured the services of a number of Dutch ship-builders and masons, architects, and surveyors well versed in making solid foundations on swampy land.

And now, while England was distracted by the civil war of the first Pretender, and by the rupture with Charles XII. of Sweden, she had much trouble with the Barbary pirates, who, in the West Indies in particular, constantly harassed her shipping interests. So great a nuisance had these "water-rats" become that £100 head-money was offered for every captain, £40 for any rank from a lieutenant to a gunner, and £20 for every pirate seaman. Any private who delivered up his commander was entitled to £200 on the conviction of the latter. But there were also at that period "land-rats" at home, as bad as any pirate, preying on the public purse. This was the epoch when Hamlet's words "they're all mad there," might almost have been said of England, and with even greater truth of our neighbours across the Channel. Two extraordinary schemes, one of which was to make France the richest of commercial nations, and the second of which was to pay the national debt of England, were propounded, great companies raised, and supported by half the people, from princes to petty tradesmen. As projects depending upon commerce with foreign countries, they, of course, are intimately connected with our subject. Need it be said that the writer refers to the two extraordinary delusions known as the Mississippi Scheme and the South Sea Bubble?

The first of these projects was designed to develop the resources of the great country lying round the Mississippi, especially Louisiana; to open up mineral deposits supposed to be wonderfully rich; and to carry on a general trade with that part of America. The second, which more intimately concerns us, included a monopoly of trade with the South Sea, a somewhat elastic title, but which meant at the time commerce with the countries of Spanish America. The South Sea Company was originated by Harley, Earl of Oxford, in 1711, with the distinct view of "providing for the discharge of the army and navy debentures, and other parts of the floating debt, amounting to nearly ten million sterling." A company of merchants took this debt upon themselves, the Government agreeing to secure them, for a certain period, six per cent. interest, and grant them the monopoly of the trade to the South Seas. The most exaggerated ideas relating to the mineral wealth of South America were prevalent at the time, and when a report, most industriously spread, was circulated that Philip V. of Spain was ready to concede four ports of Chili and Peru for purposes of trade, South Sea stock rose in value with extraordinary rapidity. That monarch, however, never meant to grant anything like a free trade to the English. After sundry negotiations had been opened the royal assent was given to a contract, conceding

* Scheltema, a Dutch authority cited by Barrow.

the privilege of supplying the colonies with negroes for thirty years, and of sending *once a year one vessel* "limited both as to tonnage and value of cargo" to trade with Mexico, Peru, and Chili, the king to enjoy one-fourth of the profits. On these hard conditions and slender privileges was the great Bubble blown into popular esteem. Rumours of commercial treaties between England and Spain were circulated, whereby the latter was to grant free trade to all her colonies; the rich produce of the Potosi mines "was to be brought to England until silver should become almost as plentiful as iron. For cotton and woollen goods, with which we could supply them in abundance, the dwellers in Mexico were to empty their golden mines. The company of merchants trading to the South Seas would be the richest the world ever saw, and every hundred pounds invested would produce hundreds per annum to the stockholder."* These and still more lying statements were spread in every direction. The stock rose like a rocket. And, so far as the present writer can discover, the first voyage of the one annual ship, not made till 1717, six years after the first establishment of the company, was also its last! The following year the trade was suppressed by the rupture with Spain.

"It seemed at that time as if the whole nation had turned stock-jobbers. Exchange Alley was every day blocked up by crowds, and Cornhill was impassable for the number of carriages. Everybody came to purchase stock. 'Every fool aspired to be a knave.' In the words of a ballad published at the time, and sung about the streets—

"'Then stars and garters did appear
Among the meaner rabble;
To buy and sell, to see and hear
The Jews and Gentiles squabble.

'The greatest ladies thither came,
And plied in chariots daily;
Or pawned their jewels for a sum
To venture in the Alley.'"

Not merely South Sea stock, but schemes of even a wilder nature now deluged the market. It would seem incredible, but it is vouched for on good authority, that one adventurer started "*A company for carrying on an undertaking of great advantage, but nobody to know what it is,*" and in one day sold a thousand shares, the deposit on which was £2 per share. He thought it prudent to decamp with the £2,000, and was no more heard of. Mackay publishes a list of eighty-six bubble companies, which were eventually declared illegal and abolished. But the South Sea Bubble was a Triton among these minnows, and the directors, having once tasted the profits of their scheme by the rapid rise of its shares, kept their emissaries at work. Nor indeed were they much needed, for every person interested in the stock endeavoured to draw a knot of listeners round him in 'Change Alley, or its purlieus, to whom he expatiated on the treasures of the South American Seas. Then came the rumour that Gibraltar was to be exchanged for certain places on the coast of Peru. Instead of paying a tribute to the King of Spain, the company would be able to trade freely, and send as many ships as they liked.

* One of the very best accounts of the South Sea Bubble is to be found in Charles Mackay's "Memoirs of Extraordinary Popular Delusions," frequently quoted above.

"Visions of ingots danced before their eyes,"

and the directors opened their books for a subscription of a million, and then for a second million, and the frantic speculators took it all. Swift described 'Change Alley as a gulf in the South Seas :—

"Subscribers here by thousands float,
And jostle one another down,
Each paddling in his leaky boat,
And here they fish for gold and drown.

"Now buried in the depths below,
Now mounted up to heaven again,
They reel and stagger to and fro,
At their wits' end, like drunken men.

"Meantime, secure on Garraway cliffs,
A savage race, by shipwrecks fed,
Lie waiting for the foundering skiffs,
And strip the bodies of the dead."

The directors used every art to keep up the price of the stock. It rose finally to £1,000 per share. A few weeks afterwards it was down to £175, then to £135, and the Bubble had burst.

To detail the various plans tried or suggested to bolster up the company, the Parliamentary inquiries, or the stringent measures adopted to punish the directors, would be out of place here. Suffice it to say that a bill was brought in for restraining the South Sea directors and officers from leaving the kingdom for a twelvemonth. They were forbidden to realise on their estates and effects, neither must they will or remove them. Eventually they were obliged to disgorge their gains. "A sum amounting to two million and fourteen thousand pounds was confiscated from their estates towards repairing the mischief they had done, each man being allowed a certain residue in proportion to his conduct and circumstances, with which he might begin the world anew. Sir John Blunt was only allowed £5,000 out of his fortune of upwards of £183,000; Sir John Fellows was allowed £10,000 out of £243,000; Sir Theodore Janssen £50,000 out of £243,000; Mr. Edward Gibbon £10,000 out of £106,000; Sir John Lambert £5,000 out of £72,000." After every effort on the part of the Committee of Investigation, a dividend of about 33 per cent. was divided among the unfortunate proprietors and stock-holders. It took long before public credit was restored.

COMMODORE ANSON.

CHAPTER III.

The History of Ships and Shipping Interests (*continued*).

A Grand Epoch of Discovery—Anson's Voyage—Difficulties of manning the Fleet—Five Hundred Invalided Pensioners drafted—The Spanish Squadron under Pizarro—Its Disastrous Voyage—One Vessel run ashore—Rats at Four Dollars each—A Man-of-war held by eleven Indians—Anson at the Horn—Fearful Outbreak of Scurvy—Ashore at Robinson Crusoe's Island—Death of two-thirds of the Crews—Beauty of Juan Fernandez—Loss of the *Wager*—Drunken and Insubordinate Crew—Attempt to blow up the Captain—A Midshipman shot—Desertion of the Ship's Company—Prizes taken by Anson—His Humanity to Prisoners—The *Gloucester* abandoned at Sea—Delightful Stay at Tinian—The *Centurion* blown out to Sea—Despair of those on Shore—Its Safe Return—Capture of the Manilla Galleon—A Hot Fight—Prize worth a Million and a half Dollars—Return to England.

The second of the greatest epochs of discovery—one, indeed, hardly inferior to that of Columbus and Da Gama, when Dampier, Byron, Wallis, and Carteret, Cook, and Clerke may be said to have substantially completed the map of the world in its most essential and leading features—would follow in proper sequence here, but for a pre-arranged plan, which will place "The Decisive Voyages of the World" by themselves. One voyage of this period, that of Commodore Anson, deserves mention, inasmuch as it was instigated for the purpose of making reprisals on the Spaniards for their behaviour in searching English ships found near any of their settlements in the West Indies or Spanish Main, and not for attempts at discovery. It also gives some little insight into the condition

of the navy at the period. It was most wretchedly equipped and manned, and although the ships were placed under Anson's command in November, 1739, they were not ready to sail till ten months later, so great was the difficulty in obtaining men. They had to be taken from all and any sources. Five hundred out-pensioners from Chelsea Hospital were sent on board, many of whom were sixty years of age, and some threescore and ten. Before the ships sailed, 240 of them, fortunately for themselves, deserted, their place being filled by a nearly equal number of raw marines, recruits who were so untrained that Anson would not permit them to fire off their muskets, for fear of accidents! Of the poor pensioners who sailed, not one returned to tell the story of their disasters, while of the whole squadron, consisting of six ships of war, mounting 226 guns, one alone, the *Centurion*, commanded by Anson himself, reached home, after a cruise of three years and nine months. The history of this voyage, as told by the chaplain of the vessel,* is one round of miseries and disasters.

"Mr. Anson," says the narrator of this eventful voyage, "was greatly chagrined at having such a decrepit attachment allotted to him; for he was fully persuaded that the greatest part of them would perish long before they arrived at the scene of action, since the delays he had already encountered necessarily confined his passage round Cape Horn to the most rigorous season of the year. Sir Charles Wager (one of the Lords of the Admiralty) too, joined in opinion with the Commodore, that the invalids were no way proper for this service, and solicited strenuously to have them exchanged; but he was told that persons who were supposed to be better judges than he or Mr. Anson, thought them the properest men that could be employed on this occasion." All of the poor pensioners "who had limbs and strength to walk out of Portsmouth deserted, leaving behind them only such as were literally invalids. . . . Indeed, it is difficult to conceive a more moving scene than the embarkation of these unhappy veterans. They were themselves extremely averse to the service they were engaged on, and fully apprised of all the disasters they were afterwards exposed to, the apprehensions of which were strongly marked by the concern that appeared in their countenances, which were mixed with no small degree of indignation." Nor can one read these facts without sharing the same feeling. Brave men who had spent the best of their youth and prime in the service of their country, were ruthlessly sent to certain death.

On the 18th of September, 1740, the squadron, consisting of five men-of-war, a sloop-of-war, and two tenders, or victualling ships, made sail. The vessels comprised the *Centurion*, of sixty guns and 400 men, commanded by George Anson; the *Gloucester* and *Severn*, each fifty guns and 300 men; the *Pearl*, of forty guns and 250 men; the *Wager*, of twenty-eight guns and 160 men; and the *Tryal* sloop, eight guns and 100 men. On their way down the Channel they were joined by other men-of-war convoying the Turkey, Straits, and American merchant fleets, so that for some distance out to sea the combined fleet amounted to no less than eleven vessels of the Royal Navy, and 150 sail of merchantmen. Anson called at Madeira, and refreshed his crews, from thence appointing the Island of St. Catherine's, on the coast of Brazil, as the rendezvous for his fleet. Arrived there

* The Rev. Richard Walter, M.A., Chaplain of the *Centurion*, who compiled the work so well known under the title of Anson's "Voyage Round the World," from the papers and material of the latter.

it was found that a large number of the men were sickly, as many as eighty being so reported on the *Centurion* alone, and the other ships in proportion. Tents were erected ashore for the invalids, and the vessels were thoroughly cleaned, smoked between decks, and finally washed well with vinegar. The vessels themselves required many repairs to fit them for the intended voyage round the Horn. The then governor of this Portuguese island, one Don Jose Sylva De Paz, behaved very badly, doing all in his power to prevent Anson from obtaining fresh provisions, and secretly dispatched an express to Buenos Ayres, where a Spanish squadron under Don Josef Pizarro then lay, with an account of the number and strength of the English ships. The history and disasters of this squadron would fill a long chapter.

Pizarro had with him six ships of war, and a very large force of men, two of the vessels having seven hundred each on board. But in spite of his superior strength, he avoided any engagement at this time, and seems to have been extremely desirous of rounding Cape Horn before Anson, for he left before his provision ships arrived. Notwithstanding this haste the two squadrons were once or twice very close together on the passage to Cape Horn, and the *Pearl*, being separated from the fleet, and mistaking the Spanish squadron for it, narrowly escaped falling into their hands. In a terrible gale off the Horn the Spanish vessels became separated, and Pizarro turned his own ship's head, the *Asia*, for the Plata once more. One of his squadron, the *Hermiona*, of fifty-four guns and 500 men, is believed to have foundered at sea, for she was never heard of more. Another, the *Guipuscoa*, a still larger ship, with 700 souls on board, was run ashore and sunk on the coast of Brazil. Famine and mutiny were added to the horrors of these voyages. On the latter-named ship 250 died from hunger and fatigue, for those who were still strong enough to work at the pumps received only an ounce and a half of biscuit *per diem*, while the incapable were allowed an ounce of wheat! Men fell down dead at the pumps, and out of an original crew of 700, not more than eighty or a hundred were capable of duty. The captain had conceived some hopes of saving his ship by taking her into St. Catherine's. When the crew learned his intention, they left off pumping, and "being enraged at the hardships they had suffered, and the numbers they had lost (there being at that time no less than thirty dead bodies lying on the deck) they all, with one voice, cried out, 'On shore! on shore!' and obliged the captain to run the ship in directly for the land, where the fifth day after she sunk with her stores and all her furniture on board her." Four hundred of the crew got, however, safely to shore. On another of the Spanish ships they became so reduced "that rats, when they could be caught, were sold for four dollars apiece; and a sailor who died on board had his death concealed for some days by his brother, who during that time lay in the same hammock with the corpse, only to receive the dead man's allowance of provisions." The *Asia* arrived at Monte Video with only half her crew; the *Esperanza*, a fifty-gun ship, had only fifty-eight remaining out of 450 men, and the *St. Estevan* had lost about half her hands. The latter vessel was condemned, and broken up in the Plata.

When Pizarro determined, in 1745, to return to Spain, they managed to patch up the *Asia*, at Monte Video, but had only 100 of the original hands left. They pressed a number of Portuguese, and put on board a number of English prisoners (not, however,

of Anson's squadron) and some Indians of the country. Among the latter was a chief named Orellana, and ten of his tribe, whom the Spaniards treated with great inhumanity. The Indians determined to have their revenge. They managed to acquire a number of long knives, and employed their leisure in cutting thongs of raw hide, and in fixing to each end of the thongs the double-headed shot of the quarter-deck guns, which when swung round their heads, became powerful weapons. In two or three days all was ready for their scheme of vengeance.

It was about nine in the evening, when the decks were comparatively clear, that Orellana and his companions, having divested themselves of most of their clothes, came together to the quarter-deck, approaching the door of the great cabin. The boatswain ordered them away. Orellana, however, paid no attention to him, placed two of his men at either gangway, and raising a hideous war-cry, they commenced the massacre, slashing in all directions with the knives, and brandishing the double-headed shot. The six who remained with the chief on the quarter-deck laid nearly forty Spaniards low in a few minutes, of whom twenty were killed on the spot. Many of the officers fled into the great cabin, and hastily barricaded the door. A perfect panic ensued on board. Many attempting to escape to the forecastle were stabbed as they passed by the four Indian sentries, and others jumped into the waist, where they thought themselves fortunate to lie concealed among the cattle on board; a number fled up the main shrouds and kept on the tops or rigging. The fact is that those on board did not know whether it was not a general mutiny among the pressed hands and prisoners, and the yells of the Indians and groans of the dying, and the confused clamour of the crew, were all heightened in effect by the obscurity of the night. And now Orellana secured the arm-chest, which had been placed on the quarter-deck for security a few days before. It was of no use to him, as he only found a quantity of fire-arms, which he did not understand, or for which he had no ammunition; the cutlasses, for which he was in search, were fortunately hidden underneath. By this time Pizarro had established some communication with the gun-rooms and between decks, and discovered that the English prisoners had not intermeddled in the mutiny, which was confined to the Indians. They had only pistols in the cabin, and no ammunition for them; at last, however, they managed to obtain some by lowering a bucket out of the cabin window, into which the gunner, out of one of the gun-room ports, put a quantity of cartridges. After loading, they cautiously and partially opened the cabin door, firing several shots, at first without effect. At last, Mindinuetta, one of the captains of the original squadron, had the fortune to shoot Orellana dead on the spot, on which his faithful companions one and all leaped into the sea and perished. For full two hours these eleven Indians had held a ship of sixty-six guns, and manned by nearly 500 hands!

Pizarro, having escaped this peril, reached Spain in safety, "after having been absent between four and five years, and having," says the narrator, "by his attendance on our expedition, diminished the naval power of Spain by above three thousand hands (the flower of their sailors), and by four considerable ships of war and a patache." He had not encountered Anson, nor done any of his ships damage. To the disasters and adventures encountered by that commander we must now return.

Off Cape Horn the weather was so terrible that it obliged the oldest mariners on board

"to confess that what they had hitherto called storms were inconsiderable gales." Short, mountainous waves pitched and tossed the vessels so violently that the men were in perpetual danger of being dashed to pieces. One of the best seamen on the *Centurion* was canted overboard and drowned; his manly form was long seen struggling in the water, he being a good swimmer, while those on board were powerless to assist him. Another man was thrown violently into the hold and broke his thigh; a second dislocated his neck, and one

THE "CENTURION" OFF CAPE HORN.

of the boatswain's mates broke his collar-bone twice. The squalls were so sudden that they were obliged to lie-to for days together, almost under bare poles, and when in a lull they ventured to set a little canvas, the blasts would return and carry away their sails. Squalls of rain and snow constantly occurred. The *Centurion*, labouring in the heavy seas, "was now grown so loose in her upper works that she let in the water at every seam, so that every part within board was constantly exposed to the sea-water, and scarcely any of the officers ever lay in dry beds. Indeed, it was very rare that two nights ever passed without many of them being driven from their beds by the deluge of water that came in upon them." Shrouds snapped, and yards and masts were lost on several of the squadron.

Two of the vessels, the *Severn* and the *Pearl*, became separated from the fleet, and were no more seen by them on the voyage.

But their worst trouble was a terrible outbreak of that insidious disease, the scurvy. In April, May, and part of June, the loss on the *Centurion* alone was two hundred men, and at length they could not muster more than six fore-mast hands in a watch capable of duty. The symptoms of this horrible complaint are various; but apart from the universal scorbutic manifestations on the body, diseased bones, swelled legs, and putrid gums, there is an extraordinary lassitude and weakness, which degenerate into a proneness to swoon, and even die, on the least exertion of strength, and a dejection of spirits which leads the invalid to take alarm at the most trifling accident. Let the reader imagine what all this meant on closely-packed ships, tempest-tossed off the dreaded Horn. When at length the *Centurion* reached the famed Crusoe Island, Juan Fernandez, the lieutenant "could muster no more than two quartermasters, and six fore-mast hands capable of working." Without the assistance of the officers, servants, and boys, they might never have been able to reach the island after sighting it, and with such aid they were *two hours* in trimming the sails. When their sloop, the *Tryal*, followed them to this haven of refuge, only the captain, lieutenant, and three men were able to stand by the sails. When, ten days later on, the *Gloucester* was seen in the offing, and Anson had sent off a boat laden with fresh water, fish, and vegetables for the crew, it was found that they had already thrown overboard two-thirds of their complement. It took them, with some assistance sent by Anson, a month before they could fetch the bay, contrary winds and currents, but more their utterly exhausted condition, being the causes. They were now reduced to eighty out of an original crew of three hundred men. Severe as have been the sufferings from scurvy endured on many of the Arctic expeditions, there is no case on record as painful as this. The three ships which reached Juan Fernandez had on board when they left England 961 men; before the ravages of the disease were stopped the number was reduced to 335, scarcely sufficient to man the *Centurion* alone. And it must be remembered that all this time they were uncertain of the movements of Pizarro and his fleet, which might appear among them at any moment. The refreshment obtained at the island, fresh water, vegetables, fruit, fish in abundance, a little goat's flesh, and seal-meat, proved of great value to those of the crew whose constitutions were not thoroughly undermined by the fell disease; but it was as much as they could do to effect the many repairs required on the vessels, to the extent even of removing and replacing masts.

Of the beauty of many parts of Juan Fernandez the chaplain speaks in enthusiastic terms. "Some particular spots occurred in these valleys, where the shade and fragrance of the contiguous woods, the loftiness of the overhanging rocks, and the transparency and frequent falls of the neighbouring streams, presented scenes of such elegance and dignity, as would with difficulty be rivalled in any other part of the globe. . . . I shall finish this article with a short account of the spot where the commodore pitched his tent, and which he made choice of for his own residence, though I despair of conveying an adequate idea of its beauty. The piece of ground which he chose was a small lawn, that lay on a little ascent, at the distance of about half a mile from the sea. In the front of his tent there was a large avenue cut through the woods to the seaside, which, sloping to the water with a

gentle descent, opened a prospect of the bay and the ships at anchor. This lawn was screened behind by a tall wood of myrtle sweeping round it, in the form of a theatre; the slope on which the wood stood rising with a much sharper ascent than the lawn itself, though not so much but that the hills and precipices within-land towered up considerably above the tops of the trees, and added to the grandeur of the view. There were besides two streams of crystal water, which ran on the right and left of the tent within a hundred yards' distance, and were shaded by the trees which skirted the lawn on either side, and completed the symmetry of the whole."

Meantime, the other vessels of the squadron did not put in an appearance. That two of them, the *Pearl* and *Severn*, were not to be expected, we have already learned; but what had become of the *Wager?* It was learned afterwards that while making the passage to the island of Socoro, one of the rendezvous of the squadron, she had become entangled among the rocks and grounded, soon becoming an utter wreck. The Honourable John Byron, afterwards a commodore in his Majesty's service, but then a youngster on board, has left an account of the disaster in his well-known work.* "In the morning, about four o'clock," says he, "the ship struck. The shock we received upon this occasion, though very great, being not unlike a blow of a heavy sea, such as in the series of preceding storms we had often experienced, was taken for the same; but we were soon undeceived by her striking again more violently than before, which laid her upon her beam-ends, the sea making a fair breach over her. Every person that now could stir was presently upon the quarter-deck; and many of those were alert upon this occasion that had not showed their faces upon deck for above two months before; several poor wretches, who were in the last stage of the scurvy, and who could not get out of their hammocks, were immediately drowned." Some seemed bereaved of their senses; one man was seen stalking about the deck flourishing a cutlass over his head, calling himself king of the country, and striking everybody he came near, till he was knocked down by some of those he had assaulted. "Some, reduced before by long sickness and the scurvy, became on this occasion as it were petrified and bereaved of all sense, like inanimate logs, and were bandied to and fro by the jerks and rolls of the ship, without exerting any efforts to help themselves. . . . The man at the helm, though both rudder and tiller were gone, kept his station; and being asked by one of the officers if the ship would steer or not, first took his time to make trial by the wheel, and then answered with as much respect and coolness as if the ship had been in the greatest safety; and immediately after applied himself with his usual serenity to his duty, persuaded it did not become him to desert it as long as the ship kept together." The captain, who had dislocated his shoulder by a fall the day before, was coolness itself, and one of the mates did all in his power to inspire them with the belief that they would not be lost so near land. This wrought a change in many who but a few minutes before had been in despair, praying on their knees for mercy. It was another illustration of—

"When the devil was sick,"

* "The Narrative of the Honourable John Byron, containing an Account of the Great Distresses suffered by himself and his Companions on the Coast of Patagonia, from the year 1740 till their Arrival in England, 1746," &c.

for they commenced breaking in the casks of brandy or wine as they came up the hatchway, and several got so intoxicated that they were drowned on board, and lay floating about the decks for several days. The boatswain and some of the men would not leave the ship so long as there was any liquor to be found on her; and Captain Cheap, having got off as many of the crew as would come, about a hundred and forty in number, suffered himself to be helped out of his bed, put into the boat, and carried ashore.

After passing a miserable night, almost without shelter, the calls of hunger—most of them having fasted forty-eight hours—obliged them to seek for sustenance. Two or three pounds of biscuit dust, one sea-gull, and some wild celery, were boiled up into a kind of soup, which made all very ill who partook of it. It was at first supposed that the wild herb was the cause, but it was soon discovered that the biscuit dust, the sweepings of the bread-room, had been gathered in a tobacco bag, and that the tobacco dust mingled with it had acted as an emetic.

Still a number of the wretched crew remained on board, pilfering all they could find, often whether it could be of use to them or not, and showing a particular desire to provide themselves with arms and ammunition. They averred that the authority of the officers must cease with the loss of the ship; but as they came ashore, the arms were taken from them. When the boatswain came ashore in laced clothes, Captain Cheap knocked him down. "It was scarce possible to refrain from laughter at the whimsical appearance these fellows made, who, having rifled the chests of the officers' best suits, had put them on over their greasy trousers and dirty checked shirts. They were soon stripped of their finery, as they had before been obliged to resign their arms." The cutter, turned keel upwards, was now placed on props and covered, so that it made a reasonably comfortable habitation. Shell-fish were found in tolerable abundance, "but this rummaging of the shore," says Byron, "was now become extremely irksome to those who had any feeling, by the bodies of our drowned people thrown among the rocks, some of which were hideous spectacles, from the mangled condition they were in by the violent surf that drove in upon the coast. These horrors were overcome by the distresses of our people, who were even glad of the occasion of killing the gallinazo (the carrion crow of that country) while preying on these carcases, in order to make a meal of them."

Such stores as could be landed were placed in a guarded tent, and doled out carefully. A few Indians arrived, and, after some parley, proved friendly, and were presented with sundry trifles. The looking-glasses astonished them; "the beholder could not conceive it to be his own face that was represented, but that of some other behind it, which he therefore went round to the back of the glass to find out." They left, and in two days returned with three sheep, which astonished the officers, inasmuch as they were far from any of the Spanish settlements.

And now mutiny and desertion ensued. One section of the men, "a most desperate and abandoned crew," attempted, by placing a barrel of gunpowder close to the captain's hut, with a train to be lighted at a distance, to destroy their commander and his authority by one fell blow, but were dissuaded by one of their number, who had some conscience left. They eventually built a punt, and converted the hull of one of the ship's masts

into a canoe, escaping therewith to the mainland. They were never heard of more. These men were a good riddance, but a more unfortunate event was to follow. Mr. Cozens, a midshipman, had been placed under confinement for being drunk, and using abusive language to the captain, but was soon after released. Subsequently he had a dispute with the surgeon, and later with the purser. The latter told him that he had "come to mutiny," and fired his pistol at him, narrowly missing him. The captain, hearing all this, rushed out, and, without asking any questions, shot Cozens through the head, and then declined to allow him to be removed to shelter. The wretched young man (whom Byron believes to have been purposely "kept warm with liquor, and set on by some ill-designing persons," as he had always been a good-natured, inoffensive man when sober) was allowed by the captain to die like a dog, "with no other covering than a bit of canvas thrown over some bushes," fourteen days afterwards. This gave the men a good excuse for that which they were about to execute.

It had been arranged that the long-boat, rescued from the wreck, should be lengthened. The captain proposed that they should proceed northwards in the Pacific, hoping that they might encounter and master one of the enemy's ships, and rejoin Commodore Anson; the men, very generally, were bent on making their voyage home through the Straits of Magellan. While the alterations were in progress, the matter rested temporarily, as they were occupied in saving portions of, or stores from, the wreck, or in obtaining shell-fish and sea-fowl, which seem not to have been too abundant. Byron had cherished in his little hut a poor Indian dog, which had become much attached to him. One day a hungry party of the men came to him, and, after a little ineffectual remonstrance, took the dog away and killed it; "upon which," says Byron, "thinking that I had at least as good a right to a share as the rest, I sat down with them, and partook of their repast. Three weeks after that I was glad to make a meal of his paws and skin, which, upon recollecting the spot where they had killed him, I found thrown aside and rotten." One of the men constructed a novel craft from a large cask, to which he lashed two logs, one on either side. In this he ventured out to sea, and often managed to get wild fowl. One day he was upset by a heavy sea, but managed to scramble to a solitary rock, where he remained two days, till accidentally rescued by a boat party.

While the coast was being reconnoitred, the "old cabal" had been revived, the debates of which generally ended in riot and drunkenness. The meeting of the leading mutineers was held in a large tent, which had been made snug, by lining it with bales of broadcloth driven from the wreck. Eighteen of the ship's company had possession of this tent, from whence committees were dispatched with their resolutions, and quite as often with demands for liquor. The captain seemingly acquiesced, so far as their projected voyage was concerned; but when they began to stipulate that his powers as commander must be restricted, he naturally insisted upon the full exercise of his rights. "This broke all measures between them, and they were from this time determined he should go with them, whether he would or no." The unfortunate affair concerning Cozens was raked up, and they threatened to put him under confinement, and bring him to trial in England. When, however, they found that the long boat, cutter, and barge were

barely large enough to carry all, they agreed to leave him behind, with the surgeon, and one of the officers of marines. Byron was taken on board, but, as he says, "was determined, upon the first opportunity, to leave them." They were in all eighty-one when they left the island. Their intention was to put into some harbour, if possible, every evening, as they were in no condition for long sea-trips, neither would their scanty provisions have lasted many days. Their water was contained in a few small powder barrels; their flour was to be lengthened out by a mixture of sea-weed; and their other supplies must depend upon their success in hunting or fishing. Next day they considered it necessary to send back the barge for some spare canvas, and Byron took the opportunity of leaving them. When they were clear of the long-boat, he found that the men on board contemplated deserting the deserters also. They "were extremely welcome to Captain Cheap." Some attempts were made to get a share of the provisions from the mutineers, but they absolutely refused. When they had left the captain and the two other officers, they had given them six pieces of beef, the same of pork, and ninety pounds of flour. For a day or two after Byron's return with a few of the men, a small allowance was doled out to them; "yet it was upon the foot of favour," and soon ceased, after which they had to subsist on "a weed called laugh," fried in the tallow of some candles they had saved, and wild celery. The account of their sufferings, and eventual escape to Chili, forms the bulk of the volume from which this narrative is taken. What became of the long-boat and its crew of mutineers? More than three months after they deserted the captain, thirty of them arrived at Rio Grande, on the coast of Brazil; twenty had been left at various points, and a larger number had died from starvation.

But to return once more to Anson. Just at the time they were straining all points to make ready for leaving Juan Fernandez, a sail was espied far in the offing. Whilst the vessel advanced, they fancied that she might be one of their own ships; but when she hauled off, it was determined to pursue her. The *Centurion* being in the most forward state, immediately got under sail; but the wind being light, they soon lost sight of the stranger. Persuaded that she was an enemy, they steered in the direction of Valparaiso for a couple of days; then considering that she must have reached her port, were on the point of abandoning the chase, when a gale blew them out of their course, at the same time bringing them once more in sight of the unknown vessel, which at first bore down upon them, showing Spanish colours. She appeared to be a large ship which had mistaken the *Centurion* for her consort, and was thought to be one of Pizarro's squadron; this induced Anson to clear the guns of all casks of water or provisions which encumbered them, and prepare for action. When near enough, she was discovered to be only a merchantman, the *Carmelo*, without even as much as a tier of guns. A little later, four shot were fired among her rigging, on which not one of the crew would venture aloft. The ship yielded immediately. When the first lieutenant went on board, he was received with abject submission; and the passengers on board, twenty-five in number, were terrified at the prospect of the ill-treatment they should receive. But Anson was always humane and generous with a fallen foe, and they were soon re-assured. His kindness was not thrown away. When at length Captain Cheap and his brother-officers of the wrecked *Wager* arrived in Chili (then an appanage of the Spanish Crown)

they were particularly well treated at Santiago. "We found," says Byron, "many Spaniards here that had been taken by Commodore Anson, and had been for some time prisoners on board the *Centurion*. They all spoke in the highest terms of the kind treatment they had received; and it is natural to imagine that it was chiefly owing to that laudable example of humanity our reception here was so good." They even said that they should not have been sorry had he taken them to England.* Anson's prize on this occasion had on board large quantities of sugar, cloth, and some little cotton and tobacco; and in addition, that which was more valuable, several trunks of wrought plate, and over *two tons* of dollars ("twenty-three serons of dollars, each weighing upwards of 200 lbs. avoirdupois").

Shortly afterwards, Anson noted two sail, one of which appeared to be "a very stout ship," and which made for them, whilst the other stood off. By evening they were within pistol-shot of the nearest, "and had a broadside ready to pour into her, the gunners having their matches in their hands, and only waiting for orders to fire." The ship was hailed in Spanish, when the welcome voice of Mr. Hughes, lieutenant of the *Tryal*, answered in English that it was a prize taken by him a couple of days before. She had tried to escape in the night by showing no lights, but an opening or crevice in one of the ports had betrayed them. She was a merchantman of about 600 tons, and had much the same cargo as that taken by Anson, but not so much money on board. Her capture at that moment was invaluable, for the *Tryal* had sprung her mainmast, and was altogether unseaworthy. She was condemned, and her crew, guns, and stores, with some additions, were put on board the prize, now appropriately christened *The Tryal's Prize*. The sloop herself was scuttled and sunk. Shortly afterwards a third prize was taken, on which several Spanish lady passengers were found, who hid themselves in corners, till assured of honourable and courteous treatment. Anson ordered that they should retain their own cabins, with all the other conveniences and privileges they had enjoyed before, and ordered the Spanish pilot, the second in command, to stay with them as their guardian and protector. A fourth prize, of little value to the captors, as they could not dispose of much of the cargo in any way, but a clear loss to the Spaniards of 400,000 dollars, was taken a few days afterwards.

Next followed the capture of Paita, Peru, an important place in those days, though it offered little or no resistance. When the sailors in search of private pillage found the clothes of the Spaniards who had fled, they were seized with an irresistible impulse to try them on; and soon their dirty unmentionables and jackets were covered by embroidered clothes and laced hats, not forgetting the bag-wig of the day. Those who could not find men's clothes put on women's, and half the *Centurion's* crew were transformed into

* "Two or three days after our arrival" (at Santiago), says Byron, "the President sent Mr. Campbell and me an invitation to dine with him, where we were to meet Admiral Pizarro and all his officers. This was a cruel stroke upon us, as we had not any cloaths to appear in, and dared not refuse the invitation. The next day, a Spanish officer belonging to Admiral Pizarro's squadron, whose name was Don Manuel de Guiror, came and made us an offer of two thousand dollars. This generous Spaniard made this offer without any view of ever being repaid, but purely out of a compassionate motive of relieving us in our present distress." A part of the money was thankfully accepted, and they got themselves decently clothed.

masqueraders. The town was burned to the ground, after treasure, in the shape of plate, dollars, and other coin, to the amount of upwards of £30,000, had been taken, besides a number of valuable jewels, and plunder generally, which became the property of the immediate captors. A vessel in the harbour was taken, and five others scuttled and sunk. The Spaniards, in their representations sent to the Court of Madrid, estimated their total loss at a million and a half of dollars. After Anson left Paita, there were dissensions on board regarding the miscellaneous plunder, between those who had been ordered ashore and

SURRENDER OF THE "CARMELO."

those whose duty obliged them to remain on board. The Commodore ruled that it should be put into one common fund, to which he gave his entire share, and then divided impartially, in proportion to each man's rank and commission. To all but a few greedy grumblers this was perfectly acceptable, and the discontent, which might easily have been fanned into mutiny, was quashed at once.

A day or two afterwards, they rejoined the *Gloucester*, and found that its captain had taken a couple of small prizes, one of them with a cargo of wine, brandy, and olives in jars, and about £7,000 in specie. The people on the other, which was hardly more than a large boat or launch, pleaded poverty, and that their cargo was only cotton. The men on the barge had surprised them at dinner upon pigeon pie served on silver dishes, and suspicion was aroused, which subsided when some little examination had been instituted.

When the packages, however, were more carefully examined on board the *Gloucester*, a considerable quantity of doubloons and dollars, to the amount of near £12,000, was discovered concealed among the cotton. Before leaving the South American coast, Anson sent fifty-nine prisoners, in two well-equipped launches taken from his prizes, to Acapulco, where they arrived safely, and spoke highly of the treatment they had received.

Anson was now on his way to the China Seas, to intercept, if possible, the Manilla galleon, of which he had received some tidings. On the voyage it became necessary to abandon the *Gloucester*. Besides the loss of masts, which were literally rotted out of her, she was tumbling to pieces from sheer rottenness; and when her captain reported on her condition, she had seven feet of water in the hold, although his officers and men had been kept constantly at the pumps for the past twenty-four hours. Her crew had become greatly reduced in numbers, and out of her total complement of ninety-seven, officers included, only sixteen men and eleven boys were capable of keeping the deck. The removal of the *Gloucester's* people, and such stores as could most easily be taken, occupied two days. It was with difficulty that the prize-money taken in the South Seas was secured; the prize goods were necessarily abandoned. "Their sick men, amounting to nearly seventy, were conveyed into the boats with as much care as the circumstances of that time would permit; but three or four of them expired as they were hoisting them into the *Centurion*." The *Gloucester* was set on fire in the evening, but did not blow up till six o'clock the following morning.

At Tinian, one of the Ladrone Islands, Anson stopped some time, refreshing his worn-out crew, and strengthening the ship. The island abounded in cattle, hogs, and poultry, running wild; in oranges, limes, lemons, cocoa-nuts, and bread-fruit. "The country did by no means resemble that of an uninhabited and uncultivated place; but had much more the air of a magnificent plantation, where large lawns and stately woods had been laid out together with great skill, and where the whole had been so artfully combined, and so judiciously adapted to the slopes of the hills and the inequalities of the ground, as to produce a most striking effect, and to do honour to the invention of the contriver." These compliments to Nature may often be paralleled in writers of the last century. When they had dropped anchor, such was the weakness of the crew that it took them five hours to furl their sails. "All the hands we could muster capable of standing at a gun," says the narrator, "amounted to no more than seventy-one, most of whom, too, were incapable of duty, except on the greatest emergencies. This, inconsiderable as it may appear, was the whole force we could collect in our present enfeebled condition from the united crews of the *Centurion*, the *Gloucester*, and the *Tryal*, which, when we departed from England, consisted of near a thousand hands." Some Indians ashore fled when they landed, leaving their huts, one of which, used as a large storehouse, was converted into a hospital for the sick, one hundred and twenty-eight in number. Numbers of these were so helpless that they had to be carried from the boats, the commodore assisting, as he had before at Juan Fernandez, and the officers following suit. The poor invalids soon felt the benefit of the abundant fresh fruits and water; and although twenty-one were buried in the first and succeeding day, they did not lose above ten more during the two months of their stay at the island.

One of the drawbacks of a stay at Tinian was the roadstead, which, with its coral bottom, afforded a bad anchorage during the western monsoons. This was convincingly proved to the people of the *Centurion*. In the third week of September the wind blew with such fury that all communication with the shore was cut off, as no boat could live in the sea raised by it. The small bower cable, and afterwards their best bower, parted. The waves broke over the devoted ship, and the long-boat, at that time moored astern, was on a sudden canted so high that it broke the transom of the commodore's cabin on the quarter-deck, and was itself stove to pieces, the poor boat-keeper, though extremely bruised, being saved almost by a miracle. The end of all this was that the ship was driven to sea, leaving Anson, several officers, and a great part of the crew on shore, amounting in the whole to one hundred and thirteen persons. The poor wretches on the ship expected each moment to be their last, as they were altogether too few and weak to work a large vessel.

"The storm which drove the *Centurion* to sea blew with too much turbulence to permit either the commodore or any of the people on shore to hear the guns which she fired as signals of distress; and the frequent glare of the lightning had prevented the explosions from being observed; so that when at daybreak it was perceived from the shore that the ship was missing, there was the utmost consternation amongst them, for much the greatest part of them immediately concluded that she was lost." Anson, whatever he thought himself, did all in his power to reason them out of the idea, and immediately proposed that if she did not return in a few days they should cut in half a small bark, a Spanish prize they had taken, and lengthen her about twelve feet, which would enable her to carry them all to China. After some days the men began to consider this their only chance, and worked zealously at their allotted employments. These were interrupted one day by "A sail!" being announced. Presently a second was descried, which quite destroyed the conjecture that it was the ship herself. The revulsion of feeling in Anson's bosom was so strong, that for once he was quite unmanned, and retired to his tent, with the bitter feeling that now he could not hope to signalise the expedition by any great exploit. He was, however, soon relieved by finding that the boats were Indian proas, which, after cruising off the island for a time, suddenly departed, and were lost to sight. The recital of the details connected with the transformation of the bark would be tedious; suffice it to say, that they had to manufacture many of the necessary tools, cut down trees, and saw them into planks, and dig a dry dock, while others were employed in collecting provisions. They were much mortified to find that all the powder ashore did not amount to more than ninety charges. What if the Spaniards should appear at this juncture?

However, in spite of all obstacles, they had proceeded so far with their work as to have fixed upon a date for their departure from the island. "But their project and labours were now drawing to speedier and happier conclusion; for, on the 11th of October, in the afternoon, one of the *Gloucester's* men, being upon a hill in the middle of the island, perceived the *Centurion* at a distance, and, running down with his utmost speed towards the landing-place, he in the way saw some of his comrades, to whom he hallooed out with great ecstasy, 'The ship! the ship!'" It was indeed the ship; and when

Anson heard of it, we can well believe that he broke through "the equable and unvaried character" he had hitherto preserved. The men were in a perfect state of frenzy. A boat with eighteen men, and fresh meats and fruits, was sent off to the *Centurion*, which came to anchor next day. She had been nearly three weeks absent. The chaplain who has left us the narrative of Anson's voyage was on board at the time. He describes their deplorable condition in a leaky ship, with three cables hanging loose, from one of which dragged their only remaining anchor; not a gun lashed or port closed; shrouds loose, and topmasts unrigged, and no sails which could be set except the mizen. The pumps alone gave employment for the whole of the available crew. "In these exigencies," says he, "no rank or office exempted any person from the manual application and bodily labour of a common sailor. They eventually raised their sheet anchor, which had been dragging at the bows, got up their mainyard, and generally got the ship in something like sailing trim. They were quite as rejoiced to see the island once more as were their companions to see them.

After a long stay at Macao, where the Chinese officials put all kinds of obstacles in the way of refitting and provisioning his ship, Anson set sail for the express purpose of intercepting the Manilla galleon or galleons, which, indeed, had been the object of his long cruise off Mexico and South America. The annual ship plying between Acapulco and Manilla, and *vice versâ*, was always richly laden with the best the Spanish colonies afforded, and all on board the *Centurion* were now eager for the fray. Anson determined to lay off Cape Spiritu Santo, Samal (one of the Philippine group of islands), as the galleons always made that land first on the voyage to Manilla. It was a month after they had gained the station that the coveted prize hove in sight. "On this a general joy spread through the whole ship." The Spaniards had determined to risk the fight, and it is needless to say that Anson was ready for them. He picked out about thirty of his choicest marksmen, whom he distributed among the tops, and they eventually did great execution. "As he had not hands enough remaining to quarter a sufficient number to each great gun in the customary manner, he therefore on his lower tier fixed only two men to each gun, who were to be solely employed in loading it, whilst the rest of his people were divided into different gangs of ten or twelve men each, who were continually moving about the decks, to run out and fire such guns as were loaded. By this management he was enabled to make use of all his guns; and instead of whole broadsides, with intervals between them, he kept up a constant fire without intermission; whence he doubted not to procure very signal advantages. For it is common with the Spaniards to fall down upon the decks when they see a broadside preparing, and to continue in that posture till it is given; after which they rise again, and presuming the danger to be for some time over, work their guns and fire with great briskness, till another broadside is ready; but the firing gun by gun, in the manner directed by the commodore, rendered this practice of theirs impossible." Several squalls of wind and rain about noon often obscured the galleon from their sight; but when the weather cleared up she was observed resolutely lying to, waiting her impending doom. Towards one o'clock the *Centurion* hoisted her colours, the enemy being within gunshot. Anson noted that the Spaniards had neglected to clear the decks, as they were still engaged in throwing overboard cattle

and lumber; and as all is supposed to be fair in war, he determined to worry them at once, and ordered the chase-guns to be fired into them. The galleon returned the fire with two of her stern chase-guns; "and the *Centurion* getting her sprit-sail-yard fore and aft, that if necessary she might be ready for boarding, the Spaniards, in a bravado, rigged their sprit-sail-yard fore and aft likewise. Soon after, the *Centurion* came abreast of the enemy, within pistol-shot, keeping to the leeward of them, with a view of preventing their putting before the wind, and gaining the port of Talapay, from which they were about seven leagues distant. And now the engagement began in earnest, and for the first half-hour Mr. Anson over-reached the galleon, and lay on her bow, where, by the great wideness of his ports, he could traverse almost all his guns upon the enemy, whilst the galleon could only bring a part of hers to bear. Immediately on the commencement of the action, the mats with which the galleon had stuffed her netting took fire, and burnt violently, blazing up half as high as the mizen-top. This accident, supposed to be caused by the *Centurion's* wads, threw the enemy into the utmost terror, and also alarmed the commodore, for he feared lest the galleon should be burnt, and lest he himself might suffer by her driving on board him. However, the Spaniards at last freed themselves from the fire by cutting away the netting, and tumbling the whole mass which was in flames into the sea. All this interval, the *Centurion* kept her first advantageous position, firing her cannon with great regularity and briskness; whilst at the same time the galleon's decks lay open to her top-men, who, having at their first volley driven the Spaniards from their tops, made prodigious havoc with their small-arms, killing or wounding every officer but one that appeared on the quarter-deck, and wounding in particular the general of the galleon himself."

Then for a little the *Centurion* lost the superiority of her original position; but still her grape-shot raked the Spaniard's decks with such cruel precision that they were covered with the dead and dying, encumbering the movements of those still fighting, who kept up as brisk a fire as they could. But the general himself was pretty nearly *hors de combat*, while the Spanish officers were rushing hither and thither, endeavouring vainly to keep the now disheartened men at their posts. They made one last effort, pointed and fired five or six guns with more precision than usual, and then yielded the contest. The galleon's colours had been singed off the ensign-staff in the beginning of the engagement, so she had to haul down the royal standard from her main-top-gallant-mast head, "the person who was employed to perform this office having been in imminent peril of being killed, had not the commodore, who perceived what he was about, given express orders to his people to desist from firing." And so the great *Nostra Signora de Cabadonga* became Anson's prize.

And she was indeed a prize. She had on board 35,682 ounces of virgin silver, 1,313,843 pieces of eight, besides some cochineal and other trifles, which hardly counted in comparison with the specie. She was a much larger vessel than the *Centurion*, and had five hundred and fifty men, and thirty-six large guns, besides twenty-eight pedreroes each carrying four-pound balls. During the action she had sixty-seven men killed, and eighty-four wounded; whilst the *Centurion* had only two killed, and seventeen wounded. Shortly after the galleon had struck, an officer came quietly to Anson, and told him the

ANSON TAKING THE SPANISH GALLEON.

ship was on fire near the powder-room. The commodore showed no emotion, and gave orders to a few in regard to extinguishing it, which was happily done, without alarming the crew or informing the enemy. The galleon was constituted by Anson a post-ship in his Majesty's navy, the command being given to his first lieutenant, Mr. Saumarez. All but the officers and wounded of the prisoners were kept in the hold of the *Centurion*, two guarded hatchways being left open. As the Spaniards were two to one of the English, every precaution was necessary, but otherwise they were treated as well as possible. Unfortunately their allowance of water was necessarily small, one pint per day, the crew only receiving a pint and a half; and although not one died on the passage to the river of Canton, they were reduced to ghastly skeletons when they were discharged. Anson refitted and sold the galleon to the merchants of Macao, and, with about £400,000 worth of Spanish treasure, sailed for England, where he arrived in safety. The damage done by him to Spain was probably three or four times that represented by the above amount. The great galleon was alone, with her cargo, valued at a million and a half dollars; whilst the destruction of Paita, and the minor Spanish prizes, with large parts of their cargoes, were serious losses to Spain.

CHAPTER IV.

The History of Ships and Shipping Interests (*continued*).

Progress of the American Colonies—Great Prevalence of Piracy—Numerous Captures and Executions—A Proclamation of Pardon—John Theach, or "Black Beard"—A Desperate Pirate—Hand-and-glove with the Governor of North Carolina—Pretends to accept the King's Pardon—A Blind—His Defeat and Death—Unwise Legislation and consequent Irritation—The Stamp Act—The Tea Tax—Enormous Excitement—Tea-chests thrown into Boston Harbour—Determined Attitude of the American Colonists—The Boston Port Bill—Its Effects—Sympathy of all America—The final Rupture—England's Wars to the end of the Century—Nelson and the Nile—Battle of Copenhagen.

During the early part of the eighteenth century, while Europe was distracted by war, the American colonies were, "by peaceful and undisturbed pursuits, laying the foundation of that prosperity which enabled them, before the close of the century, to demand and obtain their severance from the mother country, and their social and political independence." So early as 1729, Philadelphia had 6,000 tons of shipping, and received in that year 6,208 emigrants from Great Britain. New York was then carrying on a large trade in grain and provisions with Spain and Portugal, besides forwarding considerable quantities of furs to England. New England was furnishing the finest spars and masts in the world, while that part of it which is now the State of Massachusetts had already 120,000 inhabitants, employing 40,000 tons of shipping, or about 600 vessels of all sizes. The fisheries were of great value, as much as a quarter of a million quintals of dried fish being annually exported to Spain, Portugal, and the Mediterranean. Carolina was doing a magnificent business in the export of rice, Indian corn, and provisions of all kinds; in pitch, turpentine, and lumber.

But one serious evil caused the colonists great annoyance and loss—the prevalence of piracy. The State last named suffered far more than the rest. Commercial restrictions, unwisely imposed by Great Britain, gave rise to a large amount of smuggling, and from smuggling to piracy was an easy transition. "These gangs of naval robbers were likewise frequently recruited by British sailors, who had been trained to ferocity and injustice by the legalised piracy of the slave-trade." * One Captain Quelch, the commander of a vessel which had committed numerous piracies, ventured to take shelter, with his crew, in Massachusetts in the year 1704. He was detected, tried, and hanged, with six of his accomplices, in Boston. In 1717 several vessels were captured on the coasts of New England by a noted pirate, Captain Bellamy, a man who carried matters with a high hand, having a vessel with twenty-three guns, and a crew of one hundred and thirty men. The vessel was wrecked shortly afterwards on Cape Cod, the captain and the whole of his crew, except six, perishing in the waves. The pitiful remainder gained the shore, their fate literally realising Defoe's words—

"When what the sea would not, the gallows may;"

for they were immediately conveyed to Boston, tried, and executed. A number of pirates were about the same time hanged in Virginia. In consequence of the repeated complaints of British merchants regarding these freebooters, George I. issued a proclamation offering a pardon to all pirates who should surrender to any of the colonial governors within twelve months; and in 1718 dispatched a few ships of war under Captain Rogers, who, repairing to New Providence, then a perfect den of sea-thieves, took possession of the place, and nearly all the pirates there took the benefit of the royal proclamation. Steed Bennet and Richard Worley, two pirate chiefs who had fled from New Providence at the approach of Rogers, took possession of the mouth of Cape Fear River. They were captured by Governor Johnson and Captain Rhett; and Bennet, who was a man of good education, and had held the rank of major in the British army, was executed at Charlestown, with forty-one of his accomplices. North Carolina had been for a long time the haunt of one of the most desperate villains of his time, John Theach, generally known as "Black Beard," from an enormous beard he wore, and which was adjusted, Grahame records, "with elaborate care in such an inhuman disposition as was calculated to excite both disgust and terror. . . . In battle, he has been represented with the look and demeanour of a fury; carrying three braces of pistols on holsters slung over his shoulders, and lighted matches under his hat, protruding over each of his ears. The authority and admiration which the pirate chiefs enjoyed among their fellows was proportioned to the audacity and extravagance of their outrages on humanity; and none in this respect ever challenged a rivalship with Theach. . . . Having frequently undertaken to personify a demon for the entertainment of his followers, he declared at length his purpose of gratifying them with an anticipated representation of hell; and in this attempt had nearly stifled the whole crew with the fumes of brimstone under the hatches of his vessel. In one of his ecstasies, whilst heated with liquor, and sitting in his cabin, he took a pistol in each hand, and, cocking them under the table, blew out the lights, and then with

* James Grahame, "The History of the United States of North America."

crossed hands fired on each side at his companions, one of whom received a shot that maimed him for life." He was an early Mormon, for he had fourteen women whom he called his wives. His chief security had been the fact that Charles Eden, the governor, and Tobias Knight, the secretary of the province, shared in his plunder and protected him. As he was rich, and had been apprised of Rogers' operations at New Providence, he judged it wise to accept the benefit of the king's proclamation, and, with twenty of his men, pretended to surrender to Eden, who had been a receiver of goods or gold stolen by him.

CAPE COD.

This was, however, only a blind. He fitted out almost immediately afterwards a sloop, which he entered at the Custom House as a regular trader. In a few weeks he returned to North Carolina, bringing with him a French ship in a state of perfect soundness, and with a valuable cargo on board, which he deposed on oath that he had found deserted at sea, a statement which quite satisfied Eden and Knight. Nobody else believed him, and some of the Carolinians who had suffered by his hands appealed to the Government of Virginia for aid in hunting down this pest of humanity. Maynard, the lieutenant of a ship of war, was dispatched after him, found him in Pamlico Sound, and, after a close encounter, prevailed. "Foreboding defeat, Theach had posted one of his followers with a lighted match over his powder magazine, that in the last extremity he might defraud

human justice of a part of its retributive triumph. But some accident or mistake prevented the execution of this act of despair. Theach himself, surrounded by slaughtered foes and followers, and bleeding from numerous wounds, in the act of stepping back to cock a pistol, fainted from loss of blood, and expired on the spot." The few survivors threw down their swords, and were spared—to die on the gallows shortly afterwards. Piracy was checked, but not obliterated, by these means; and about five years after this period no less than twenty-six of these "sea rats" were executed in Rhode Island.

This not being a history of America, the writer is spared all allusion to events of the

THE "DARTMOUTH" IN BOSTON HARBOUR.

period except so far as they bear on the sea and maritime matters. One of the greatest among a long series of mistakes made at the time by Great Britain was an expedient, ascribed to George Grenville, intended to strike a death-blow at smuggling. All the commanders and other officers of British ships of war stationed off the American coasts, or cruising in the American seas, now received injunctions and authority from the Crown to act as officers of the customs; they were compelled to take the usual oaths of office administered to the civil functionaries ashore; and, to reconcile them to what they might think a service degrading to them, they were to receive an ample share of contraband and confiscated cargoes. It must be remembered that they were totally ignorant of the laws which they were now required not merely to guard, but to administer; and they had not

the restraints of the ordinary Custom House officials, for whatever wrong they might commit, no nearer redress was open to the sufferer than an appeal to the Admiralty or Treasury of England. Many cargoes were unjustly confiscated, and a number of others unreasonably detained, to the great detriment of the owners; "and in several instances these violations of justice were ascribed rather to eager cupidity and confidence of impunity than to involuntary error." In other words, the legitimate merchant was often put in the same box as though he had been a pirate or smuggler. A traffic had long sprung up between the British and Spanish colonies of North and South America, advantageous to both. The same existed, in a lesser degree, between America and the French West India Islands. These new auxiliaries of the Custom House now and again seized indiscriminately and confiscated the ships, American or foreign, engaged in this trade. Meantime, the Government at home, ill-informed as it was, learned that there was much discontent in America, and hastened to repair the damage by passing a special Act of Parliament, declaring the legitimacy of the commerce between the American colonies and those of France and Spain. Unfortunately, they at the same time loaded the more valuable articles with duties which were nearly prohibitive, and must encourage smuggling.

Then came the passage of the Stamp Act, which was to tax every paper of a commercial, legal, or social nature, and which was so unpopular that the merchants of New York directed their correspondents in England to ship no more goods to them till it should be repealed. The people very generally agreed to confine their purchases to native productions. "I will wear nothing but homespun!" exclaimed one angry citizen. "I will drink no wine," echoed another, angry that wine must pay a new duty. "I propose," cried a third, "that we dress in sheepskins, with the wool on."* To encourage a woollen manufacture in America, it was recommended to the colonists to abstain from eating the flesh of lambs, and not a butcher durst afterwards expose lamb for sale. Its operations were ushered in at Boston by the tolling of bells; effigies of the authors and abettors were carried about the streets, and afterwards torn in pieces by the populace. At Portsmouth, New Hampshire, a funeral procession was organised, and a coffin bearing the inscription, "LIBERTY, AGED CXLV. YEARS," was paraded, amidst the booming of minute guns, and the roll of muffled drums. An oration was made over a grave prepared for its reception, at the conclusion of which some remains of life were, it was pretended, discovered in the body, which was thereupon snatched from the grave. The inscription was altered to "LIBERTY REVIVED," and a cheerful and hilarious procession then marched off with it. In several instances the residences of the governors, officials, and tax-collectors of States were burned to the ground, or greatly damaged. So strong was the current of popular will that the Custom House officers did not, in a large number of cases, attempt to stamp the clearances of vessels sailing. The law courts remained open, and ignored the want of stamps on legal documents, and marriages were consummated simply after putting up the banns, and not by stamped certificate. The almost total suspension of business with English shippers and merchants alarmed them greatly, and they were among the first to petition for its repeal. In Parliament, among many others, Pitt was

* George Bancroft, "History of the United States."

a warm friend to the American cause. In answer to a taunting speech from Grenville, he replied: "We are told that America is obstinate—that America is almost in open rebellion. *Sir, I rejoice that America has resisted.* Three millions of people so dead to all the feelings of liberty as voluntarily to submit to be slaves, would have been fit instruments to make slaves of all the rest." The Stamp Act was repealed March 19th, 1766, and in London itself was received with so much joy, that there was a general illumination, amid the ringing of church bells; and in America it was hailed with satisfaction, although subsequent action on the part of the English Government soon obliterated all memory of the concession.

Passing over political complications which led to the American Revolution, we must allude to the Tea Tax, the resistance to which was as strong as to any previous measure of our misguided Government. The Government decided to enforce it, although they were aware of its unpopularity, and the East India Company, which had the vast stock of 17,000,000 lbs. on hand, freighted several of their ships to America. Mark the result.*

On the 28th November, 1773, the ship *Dartmouth* appeared in Boston Harbour with one hundred and fourteen chests of the East India Company's tea. To keep the Sabbath strictly was the New England usage. But hours were precious; let the tea be entered, and it would be beyond the power of the consignee to send it back. The Select men held one meeting by day, and another in the evening, but they sought in vain for the consignees, who had taken sanctuary in the castle.

The Committee of Correspondence was more efficient. They met also on Sunday; and obtained from the Quaker, Potch, who owned the *Dartmouth*, a promise not to enter his ship till Tuesday; and authorised Samuel Adams to invite the Committees of the five surrounding towns, Dorchester, Roxbury, Brookline, Cambridge, and Charlestown, with their own townsmen and those of Boston, to hold a mass meeting the next morning. Faneuil Hall could not contain the people that poured in on Monday. The concourse was the largest ever known. Adjourning to "The Old South" Meeting House, on the motion of Samuel Adams, the assembly, composed of five thousand persons, resolved, unanimously, that "the tea should be sent back to the place from whence it came at all events, and that no duty should be paid on it." "The only way to get rid of it," said Mr. Young, "is to throw it overboard." The consignees asked for time to prepare their answer; and, "out of great tenderness," the body postponed proceeding with it till the next morning. Meantime the owner and master of the ship were *converted*, and forced to promise not to land the tea. A watch was also proposed. "I," said Hancock, "will be one of it, rather than that there should be none;" and a party of twenty-five persons, under the orders of Edward Proctor as its captain, was appointed to guard the tea-ship during the night.

The next morning the consignees jointly gave in their answer:—"It is utterly impossible to send back the teas; but we now declare to you our readiness to store them, until we shall receive further directions from our constituents!"—that is, until they could

* The above account is principally derived from Bancroft.

notify the British Government. The wrath of the meeting was kindling, when the Sheriff of Suffolk entered with a proclamation from the governor, warning the assembly to disperse. The notice was received with hisses, derision, and a unanimous vote not to disperse. In the afternoon Potch, the owner, and Hall, the master, of the *Dartmouth*, yielding to an irresistible impulse, engaged that the tea should return as it came, without touching land or paying duty. A similar promise was exacted of the owners of the other tea-ships, whose arrival was daily expected. In this way "it was thought the matter would have ended." Every shipowner was forbidden, on pain of being deemed an enemy to the country, to import or bring as freight any tea from Great Britain, till the unrighteous Act taxing it should be repealed; and this vote was printed and sent to every seaport in the Province, and to England. Six persons were chosen as foot-riders, to give due notice to the country towns of any attempt to land the tea by force; and the Committee of Correspondence, as the executive organ of the meeting, took care that a military watch was regularly kept up by volunteers armed with muskets and bayonets, who at every half-hour in the night regularly passed the word "All is well!" like sentinels in a garrison. Had they been molested in the night, the tolling of the bells would have been the signal for a general uprising.

The ships, after landing the rest of their cargo, could neither be cleared in Boston with the tea on board, nor be entered in England, and on the twentieth day from their arrival would be liable to seizure.

The spirit of the people rose with the emergency. Two more tea-ships which arrived were directed to anchor by the side of the *Dartmouth*, at Griffin's Wharf, that one guard might serve for all. In the meantime the consignees conspired with the Revenue officers to throw on the owner and master of the *Dartmouth* the whole burden of landing the tea, and would neither agree to receive it, nor give up their bill of lading, nor pay the freight. Every movement was duly reported, and the town became as furious as in the time of the Stamp Act. On the 9th there was a vast gathering at Newburyport, of the inhabitants of that and the neighbouring towns, and they unanimously agreed to assist Boston, even at the hazard of their lives. "This is not a piece of parade," they say, "but if an occasion shall offer, a goodly number from among us will hasten to join you."

In this state of things it was easily seen by the people of Boston that, the ships lying so near, the teas would be landed by degrees, notwithstanding any guard they could keep or measures taken to prevent it; and it was as well known that if they were landed nothing could prevent their being sold, and thereby the purpose of establishing the monopoly and raising a revenue fulfilled.

The morning of Thursday, the 16th of December, 1773, dawned upon Boston, a day by far the most momentous in its annals. The town of Portsmouth held its meeting on that morning, and, with six only protesting, its people adopted the principles of Philadelphia, appointed their Committee of Correspondence, and resolved to make common cause with the Colonies. At ten o'clock the people of Boston, with at least two thousand men from the country, assembled in the Old South. A report was made that Potch (the owner of the *Dartmouth*) had been refused a clearance from the

collector. "Then," said they to him, "protest immediately against the Custom House, and apply to the governor for his pass, so that your vessel may this very day proceed on her voyage to London."

The governor had stolen away to his country house at Milton. Bidding Potch make all haste, the meeting adjourned to three in the afternoon. At that hour Potch had not returned. It was incidentally voted, as other towns had already done, to abstain totally from the use of tea. Then, since the governor might refuse his pass, the momentous question recurred, "Whether it be the sense and determination of this body to abide by their former resolutions, with respect to the not suffering the tea to be landed?" After hearing addresses from Adams, Young, the younger Quincy, and others, the whole assembly of seven thousand voted unanimously, that the tea should not be landed.

It had been dark for more than an hour. The church in which they met was dimly lighted; when, at a quarter before six, Potch appeared, and satisfied the people by relating that the governor had refused him a pass, because his ship was not properly cleared. As soon as he had finished his report, Samuel Adams rose and gave the word: —"This meeting can do nothing more to save the country!" On the instant a shout was heard at the porch; the war-whoop resounded; a body of men, forty or fifty in number, disguised as Indians, passed by the door, and, encouraged by Samuel Adams, Hancock, and others, repaired to Griffin's Wharf, posted guards to prevent the intrusion of spies, took possession of the three tea-ships, and in about three hours three hundred and forty chests of tea, being the whole quantity that had been imported, were emptied into the bay, without the least injury to other property. All things were conducted with great order, decency, and perfect submission to Government. The people around, as they looked on, were so still that the noise of breaking open the tea-chests was plainly heard.

In Philadelphia, when a tea-ship arrived, the captain fearing the loss of his cargo, agreed to sail back again the following day.

During the whole period of her controversy with Great Britain, America was deriving a constant increase of strength, not merely from domestic growth, but by the immense volume of emigration from Europe. No complete record remains of its amount, but sufficient facts are known to show how vast it had become. "Within the first fortnight of August, 1773, there arrived at Philadelphia 3,500 emigrants from Ireland; and from the same document which has recorded this circumstance, it appears that vessels were arriving every month freighted with emigrants from Holland, Germany, and especially from Ireland and the Highlands of Scotland. About 700 Irish settlers repaired to the Carolinas in the autumn of 1773; and in the course of the same season no fewer than ten vessels sailed from Britain with Scottish Highlanders emigrating to the American States." Connecticut in ten years gained 50,000 in population, and when the final rupture occurred with the mother country, the United States had already reached the important number of about three and a quarter millions, or say a good million over the united populations of the Australasian colonies of to-day, including New Zealand. And it must never be forgotten that of the new-comers a large proportion were flying from grievances at home to which

they could no longer submit, and that they therefore added to and fanned the discontent prevailing in America. In view of such facts the action of the home Government is nearly inexplicable.

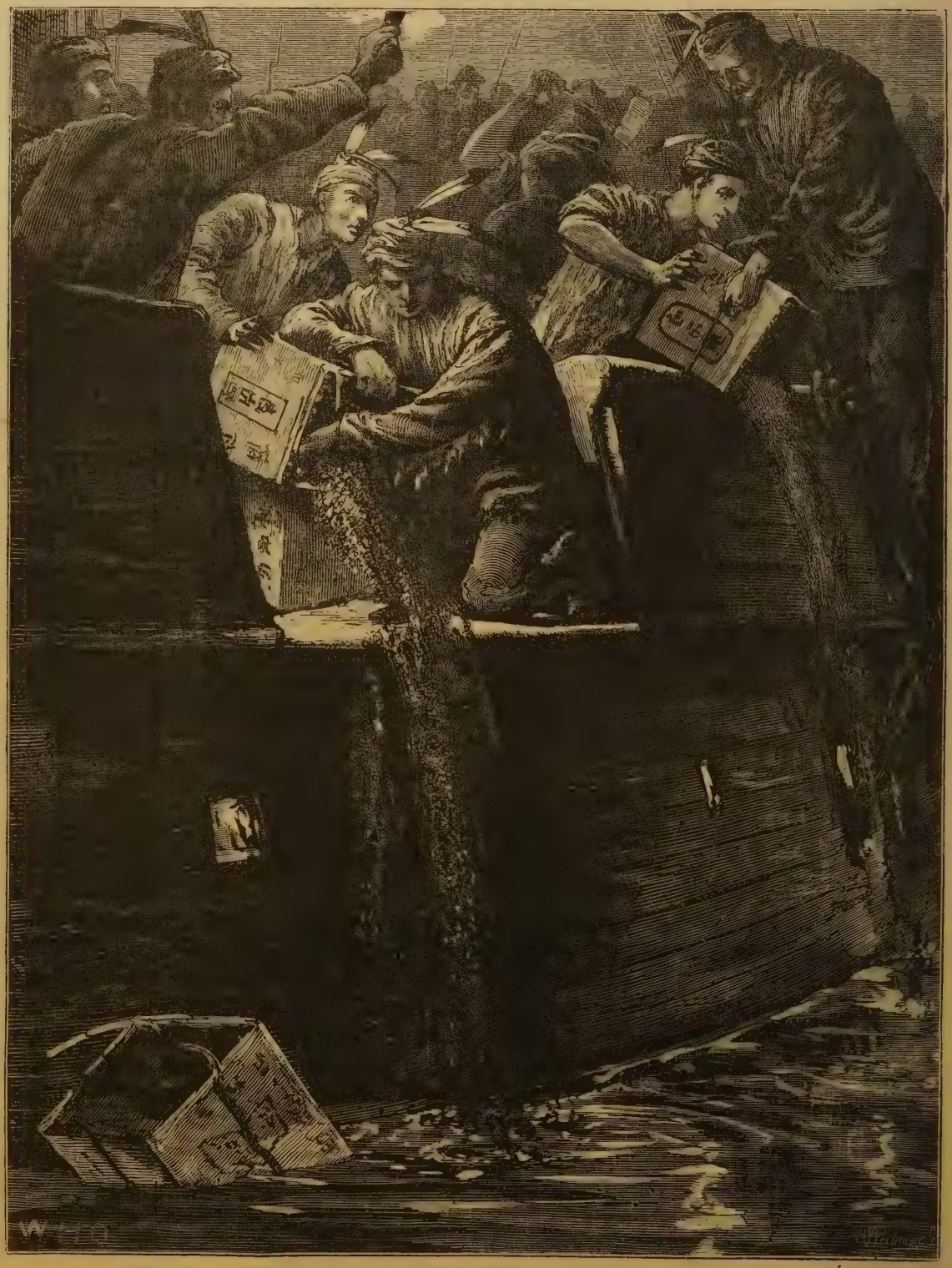
When the intelligence of the destruction of the tea reached England, although it was obvious that the opposition which had been shown was common to all the colonies, it was determined to make an example of Boston. "It was reckoned that a partial blow might be dealt to America with much greater severity than could be prudently exacted in more extensive punishment; and it was, doubtless, expected that the Americans in general, without being provoked by personal suffering, would be struck with terror by the rigour inflicted on a city so long renowned as the bulwark of their liberties. Without even the decent formality of requiring the inhabitants of Boston to exculpate themselves, but definitely assuming their guilt in conformity with the despatches of a governor who was notoriously at enmity with them, the Ministers introduced into Parliament a bill for suspending the trade and closing the harbour of Boston during the pleasure of the king. They declared that the duration of this severity would depend entirely upon the conduct of the objects of it; for it would doubtless be relaxed as soon as the people of Boston should make compensation for the tea that had been destroyed, and otherwise satisfy the king of their sincere purpose to render due submission to his Government." The bill encountered little or no opposition in Parliament, a few members only contending that milder measures should be tried. It is impossible to imagine such an occasion to-day. Think of the ports of Sydney or Melbourne, for example, being closed to all trade and commerce from outside, and hundreds of vessels prevented from unloading or loading there, because of irritation prevailing among the Australians, entirely produced by unwise legislation, and unjust taxation on the part of the mother country. Yet this is what was done with our American colonies little more than a hundred years ago.

Mark what followed. On the arrival of the first copy of the Boston Port Bill a town meeting was convened in that city, and it was recommended, "That all commercial intercourse whatever with Britain and the West Indies should be renounced by the American States till the repeal of the Act." At Philadelphia a liberal subscription was made for the relief of such of the poorer inhabitants of Boston whose livelihood had been ruined by this arbitrary proceeding. The Virginian House of Burgesses appointed the date on which the operation of the Act was to commence as a day of fasting, humiliation, and prayer.

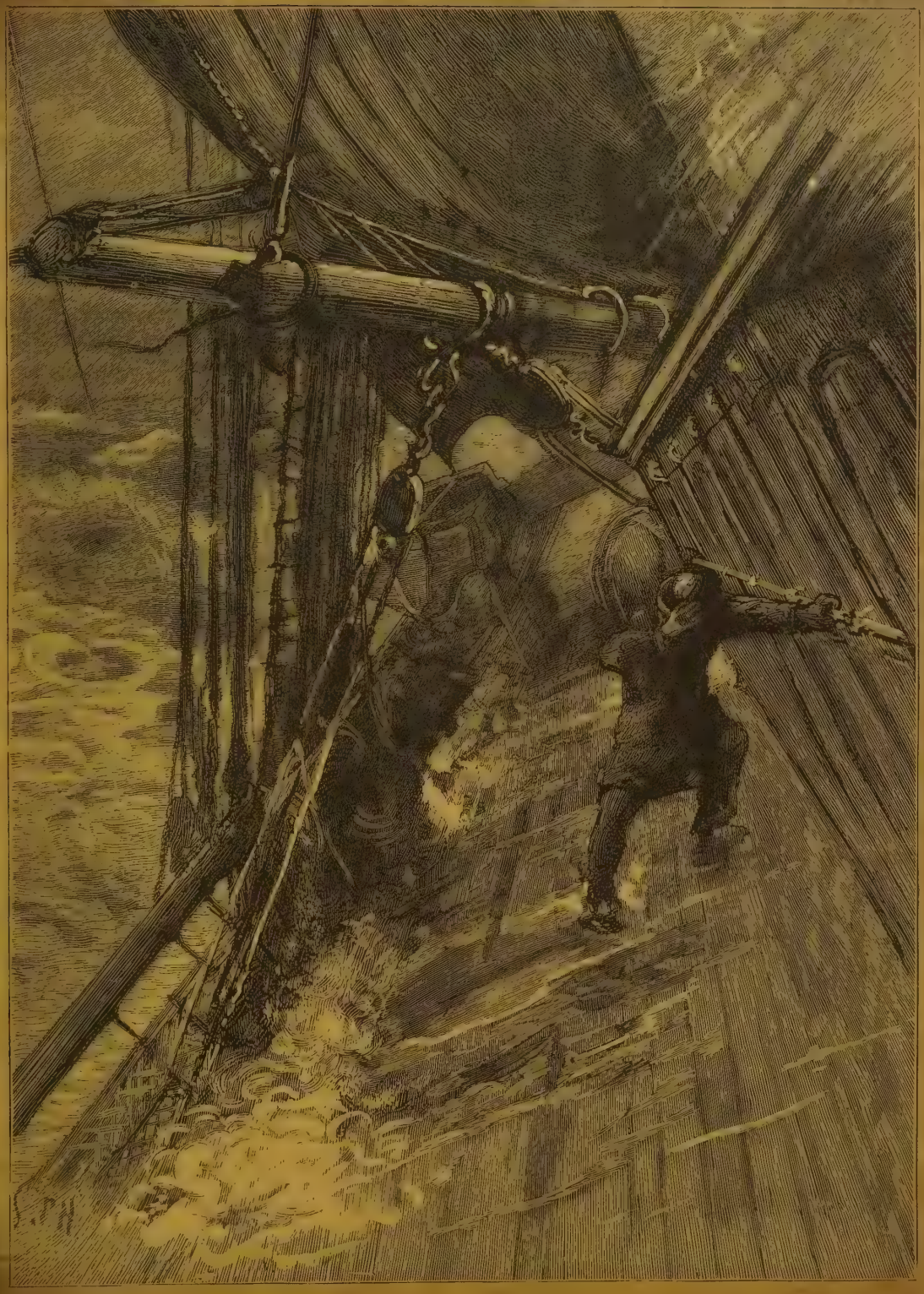
On the 1st of June, 1774, the operation of the Boston Port Bill commenced. All the commercial business of the capital of Massachusetts was concluded at noon, and the harbour of this flourishing port was closed—till the gathering storm of the Revolution was to re-open it. "At Williamsburgh, in Virginia, the day was devoutly consecrated to the religious exercises which had been recommended by the Assembly. At Philadelphia it was solemnised by a great majority of the population with every testimonial of public grief; all the inhabitants, except the Quakers, shut up their houses; and after divine service a deep and ominous silence reigned through the city. In other parts of America it was also observed as a day of mourning; and the sentiments thus widely awakened were kept alive and exasperated by the distress to which the inhabitants of Boston were reduced from the

continued operation of the Port Bill, and by the fortitude with which they endured it. The rents of all the land-holders in and around Boston now ceased, or were greatly diminished; all the wealth which had been vested in warehouses and wharfs was rendered unproductive; from the merchants was wrested the commerce which they had reared, and the means alike of providing for their families and paying their debts; all the artificers employed in the numerous occupations created by an extensive trade shared the general hardships; and a great majority of that class of the community who earned daily bread by their daily labour were deprived of the means of support." The sympathy shown by the sister colonies was highly creditable, and often took the form of substantial relief. The inhabitants of Marblehead offered to the Boston merchants the use of their harbours, wharfs, and warehouses, together with their personal services in lading and unlading goods, free of all expense. The citizens of Salem (in the same State as Boston) concluded a remonstrance against the British measures as follows:—"By shutting up the port of Boston, some imagine that the course of trade might be turned hither, and to our benefit. . . . We must be lost to every idea of justice, and dead to all the feelings of humanity, could we indulge one thought of raising our fortunes on the ruins of our suffering neighbours." A country so thoroughly bound together surely deserved the independence which a couple of years later it secured.

No better excuse can be urged for England than that her hands were constantly full at this period. When there was not actual war there were always rumours of war. Fortunately for our country, in its greatest need its greatest hero's star was in the ascendant. How often in these pages must we recur again and again to the name of Nelson? The year after America had declared her independence, he was, it is true, but simply a lieutenant, and scarcely over nineteen years of age. He had already seen some service. He had been to the West Indies and to the Arctic Ocean, where, on Captain Phipps' expedition, occurred one of those little incidents which indicated a hero in embryo. Young Nelson was one day missing, and though every search was instantly made for him, it seemed entirely in vain, and all imagined he was lost. Somebody at length discovered him at a considerable distance off, on the ice, armed with a single musket, and fighting away with some object which, on nearer approach, proved to be an immense bear. Always slight in frame, and comparatively feeble in body, what was the youngster about? It was found that the lock of his musket proving useless, he had pursued the animal with the hope of tiring him, and then intended to knock him on the head. On his return he was reprimanded for leaving the ship without permission, and asked why he had been so rash. The young hero replied, "I wished, sir, to get the skin for my father;" and although there is no record of the fact, it may well be believed that his little escapade was not very severely punished. Almost immediately after his return from the frozen regions, we find him in the East Indies, where his health nearly gave way. For the second time in Nelson's career we find him almost abandoning the sea. "I felt impressed," wrote he long afterwards, "with an idea that I should never rise in my profession. My mind was staggered with a view of the difficulties which I had to surmount, and the little interest I possessed. I could discover no means of reaching the object of my ambition. After a long and gloomy reverie, in which I almost wished myself overboard, a sudden glow of



DESTRUCTION OF THE TEA CARGOES.



"CURLY" WEATHER.

patriotism was kindled within me, and hope presented my king and country as my patrons. 'Well then,' I exclaimed, 'I will be a hero, and confiding in Providence, I will brave every danger.'" From that moment his aspirations became inspirations, and he believed fully that

"The light which led him on,
Was light from Heaven."

The young sailor, or he who may become one, may learn very much from the earlier part

NELSON AND THE BEAR.

of Nelson's career. Again and again was he disappointed, and although momentarily irritable, he always ended by looking forward to the inevitable reward due to the man who places country and duty above all other considerations. After his services at Bastia and Calvi, where he lost that eye which afterwards served him so well from its blindness, his bravery was altogether overlooked in the despatches. "One hundred and ten days," said he, "I have been actually engaged at sea and on shore against the enemy; three actions against ships, two against Bastia in my own ship, four boat actions, two villages taken, and twelve sail of vessels burnt. I do not know that any one has done more; I have had the comfort to be always applauded by my commanders-in-chief, but never to be rewarded; and, what is more mortifying, for services in which I have been wounded, others have been praised who, at the time, were actually in bed, far from the

scene of action. They have not done me justice; but never mind—I'll have a gazette of my own!"

And what a gazette it was! When, in 1797, Nelson received a special grant for his services, a memorial had to be drawn up, when it was found that he had been engaged against the enemy upwards of *one hundred and twenty times!* During the latest war up to the above date he had assisted at the capture of seven sail of the line, six frigates, four corvettes, and eleven privateers; he had taken or destroyed nearly fifty sail of merchant vessels.

Then followed the great battle of the Nile. The French fleet having been discovered by Captain Samuel Flood, the action commenced at sunset. The shores of the Bay of Aboukir were lined with spectators, who beheld the approach of the English and the terrible conflict which ensued, in silent and awe-stricken astonishment. A brisk fire was opened by the *Vanguard*, which ship covered the approach of those in the rear; in a few minutes every man stationed at the first six guns in her fore part were all down, killed or wounded. Admiral Nelson was so entirely resolved to conquer, or to perish in the attempt, that he led into action with six ensigns, red, white, and blue—he could not bear the idea of his colours being carried away by a random shot from the enemy.

Nelson—long minus one eye and one arm—in this battle received a severe wound in his head, the skin of the forehead hanging down over his face. Captain Berry, who was standing near, caught him in his arms. It was the opinion of everyone, including the sufferer, that he was shot through the head. On being carried down in the cockpit, where several of his gallant crew were stretched with shattered limbs and mangled wounds, the surgeon immediately came with great anxiety to the admiral. "No," replied the hero, "I will take my turn with my brave fellows!" The agony of his wound increasing, he became convinced that he was dying, and sent for the chaplain, begging him to remember him to Lady Nelson; he even went so far as to appoint Hardy post-captain for the *Vanguard*. When the surgeon came to examine and dress the wound, it clearly appeared that it was not mortal, and the joyful intelligence spread quickly through the ship. As soon as the operation was over, Nelson sat down, and that very night wrote the celebrated official letter which appeared in the *Gazette*. He came on deck just in time to witness the conflagration of *L'Orient*. So terrible was the carnage at the battle of the Nile that the Bay of Aboukir was covered for a week with the floating corpses, and though men were continually employed to sink them, many of the bodies, having slipped from the shot, would re-appear on the surface. Alas! the accounts of these horrible scenes, painful as they are, yet pale before the latest horror in our own Thames—the loss of the *Princess Alice*, where more perished than in many a recorded sea-fight of days gone by.

After the battle, the officers vied with each other in sending various presents to the admiral, to show their delight that he had, though severely wounded, escaped death. Captain Hallowell, who had long been on the most intimate terms with Nelson, hit on the extraordinary idea of having an elegantly-furnished coffin constructed by his carpenter from the wreck of *L'Orient*, a grim present, which he ordered to be made for the admiral. It was conveyed on board, and it is stated that Nelson highly appreciated the present of his brave officer. Nelson kept it for some months upright in his cabin, till at length an old servant tearfully entreating him, he allowed it to be carried below. Nelson was now at the height of glory; never had before, or has since, any admiral received honours from so many various nations and crowned

heads. The following is a list of presents bestowed on him for his services in the Mediterranean between October, 1798, and October, 1799 :—

From his king and country, a peerage of Great Britain and gold medal.
From Parliament, for his own life and two next heirs, per annum, £2,000.
From the Parliament of Ireland, per annum, £1,000.
From the East India Company, £10,000.
From the Turkey Company, a piece of plate of great value ; from the City of London, a magnificent sword.
From the Grand Signor, a diamond aigrette and rich pelisse, valued at £3,000.
From the Grand Signor's mother, a rose set with diamonds, valued at £1,000.
From the Emperor of Russia, a box set with diamonds, valued at £2,500.
From the King of the Two Sicilies, a sword richly ornamented with diamonds, valued at £5,000.
From the King of Sardinia, a box set with diamonds, valued at £1,200.

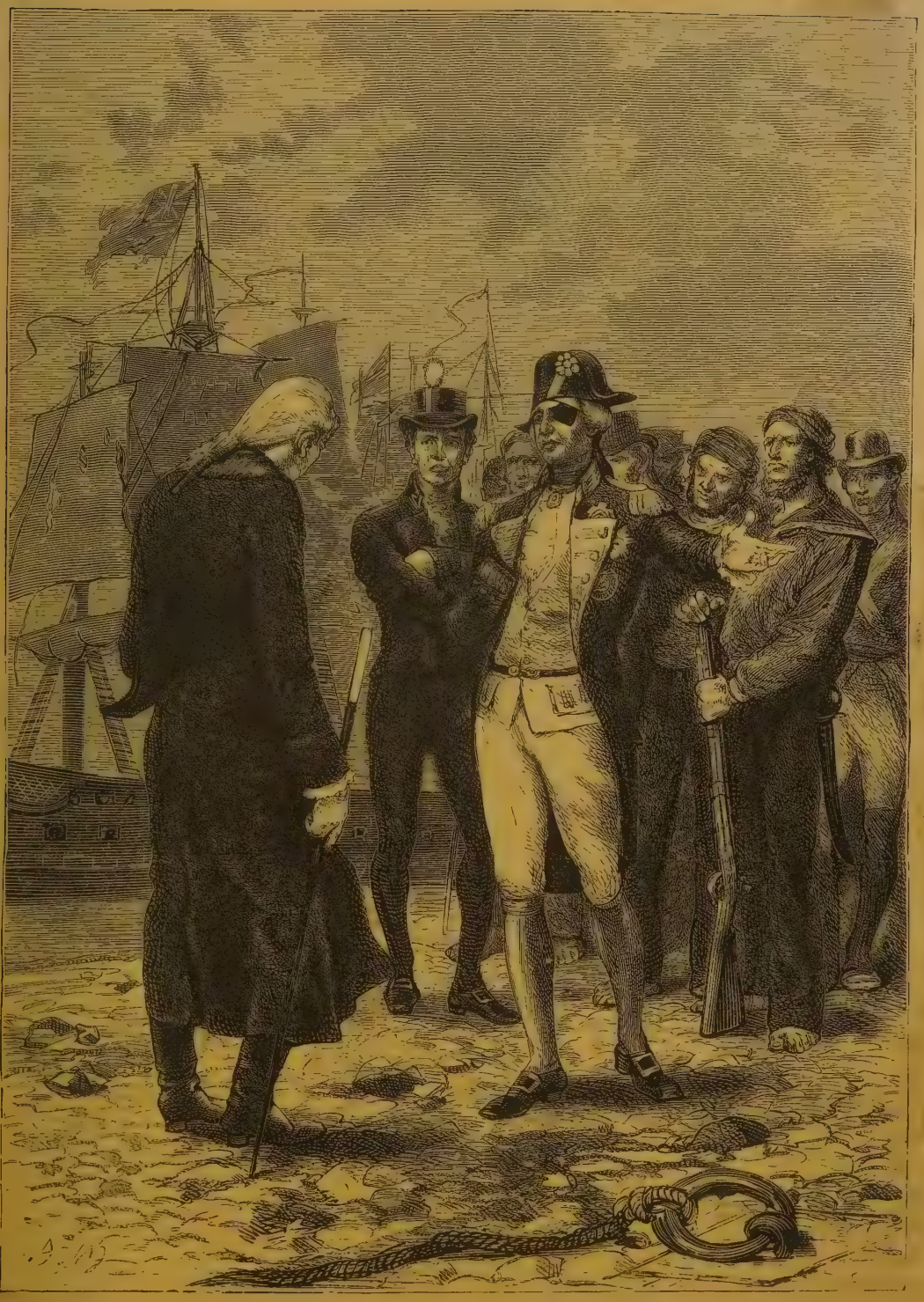
In addition to these, all accompanied by complimentary addresses or letters, he received presents from the Island of Zante, the city of Palermo, and private individuals. Had he not attained a "*Gazette* of his own?"

The battle of Copenhagen made Nelson's talents, in some respects, even more conspicuous. The Danes were admirably prepared for defence. Upwards of a hundred pieces of cannon were mounted on the Crown Batteries at the entrance of the harbour, while a line of twenty-five two-deckers, frigates, and floating batteries were moored across its mouth. A Dane who came on board during the ineffectual negotiations which preceded hostilities, having occasion to express his proposals in writing, found the pen thick and blunt, and holding it up, sarcastically said, "If your guns are not better pointed than your pens, you will make little impression on Copenhagen." Nelson himself said that of all the engagements in which he had borne a part, this was the most terrible. He had with him twelve ships of the line, besides frigates and smaller craft, the remainder of the fleet being with Sir Hyde Parker, the Commander-in-chief, four miles off. Three of his squadron grounded, and, owing to the fears of the masters and pilots, the anchors were let go nearly a cable's length from the enemy, whereas, had they proceeded a little further, they would have reached deeper water, and the victory would have been effected in half the time. The fight, which commenced at ten o'clock in the morning, was by no means decided at one in the afternoon, when Sir Hyde Parker signalled for the action to cease. It was reported to Nelson, who took no notice of it. The signal-lieutenant meeting him at the next turn, asked him if he should repeat it. "No," answered Nelson, "acknowledge it." Shortly afterwards he called after him to know if the signal for close action was still hoisted, and being answered in the affirmative, said, "Mind you keep it so." He now rapidly paced the deck, moving the stump of his right arm in a manner which always denoted great agitation ; for the Commander-in-chief still signalled "leave off action." At last, turning to the captain, he said, "You know, Foley, I've only one eye, and I have a right to be blind sometimes," and he ordered his signal for closer battle to be nailed to the mast. Admiral Graves disobeyed the Commander-in-chief in similar manner, but the squadron of frigates moved off. About two o'clock great part of the Danish line had ceased to fire, some of their lighter ships were adrift, and some had struck. It was, however, difficult to take possession of them, as they were protected by the batteries of an island, and they themselves fired on the English boats as they approached. This irritated Nelson: "We must either," he said, "send on shore and stop these irregular proceedings, or send in fire-ships

and burn the prizes." In this part of the battle the victory was complete, but the three ships ahead were still engaged, and considerably exposed. Nelson, with his usual presence of mind, seized the occasion to open a negotiation, and wrote to the Crown

LORD NELSON.

Prince as follows: "Vice-Admiral Lord Nelson has directions to spare Denmark when she no longer resists. The line of defence which covered her shores has struck to the British flag; but if the firing is continued on the part of Denmark, he must be obliged to set on fire all the prizes that he has taken, without having the power of saving the brave Danes who have defended them." Captain Frederick Thesiger was sent in with it. During his absence the remainder of the enemy's line eastward was silenced; the Crown Batteries continued to fire, till the Danish General Lindholm returned with a flag of truce, when



NELSON AT COPENHAGEN.

the action closed. His message from the prince was to inquire what was the object of Nelson's note? Nelson replied that "it was humanity; he consented that the wounded Danes should be taken on shore, and that he on his part would take his prisoners out of the vessels and burn or carry off his prizes as he thought fit. He presented his humblest duty to the prince, saying that he should consider this the greatest victory he ever gained if it might be the cause of a happy reconciliation between the two countries." This proposal was accepted in the course of the evening, and a suspension of hostilities for twenty-four hours agreed upon, during which it was resolved that Nelson should land and negotiate in person with the prince.

Accordingly next morning he landed, being protected by a strong guard from the possible vengeance of the Danish population. "The battle so dreadfully destructive to the Danes was in sight of the city; the whole of the succeeding day was employed in landing the wounded, and there was scarcely a house without its cause for mourning. It was no new thing for Nelson to show himself regardless of danger, and it is to the honour of Denmark that the populace suffered themselves to be restrained. Some difficulty occurred in adjusting the duration of the armistice. He required sixteen weeks, giving, like a seaman, the true reason, that he might have time to act against the Russian fleet and return. This not being acceded to, a hint was thrown out by one of the Danish commissioners of the renewal of hostilities. 'Renew hostilities!' said he to the interpreter, 'tell him we are ready at a moment; ready to bombard this very night!' Fourteen weeks were at length agreed upon; the death of the Emperor Paul intervened, and the Northern Confederacy was destroyed. Nelson was raised to the rank of viscount, and, indeed, had not the Government dealt out honours to him slowly and by degrees, their stock would long ere that have been exhausted." The grand sea battle in which he saved his country and lost his life has been already described in these pages.

CHAPTER V.

The History of Ships and Shipping Interests (*continued*).

Early Paddle-boats—Worked by Animal Power—Blasco de Garay's Experiment Solomon de Caus—David Ramsey's Engines—The Marquis of Worcester—A Horse-boat—Boats worked by Water—By Springs—By Gunpowder—Patrick Miller's Triple Vessel—Double Vessels worked by Capstans—The First Practical Steam-boat—Symington's Engines—The Second Steamer—The *Charlotte Dundas*—American Enterprise—James Rumsey's Oar-boats worked by Steam—Poor Fitch—Before his Age—Robert Fulton—His Torpedo Experiments—Wonderful Submarine Boat—Experiments at Brest and Deal—His first Steam-boat—Breaks in Pieces—Trip of the *Clermont*, the first American Steamer—Opposition to his Vessels—A Pendulum-boat—The first Steam War-ship—Henry Bell's *Comet*.

The employment of animal power in the propulsion of vessels is of very ancient date, and we shall see that steam-power was proposed for the same purpose as soon as the steam-engine had been utilised for pumping mines, although it was some time before it could be applied practically and profitably. We are told that "in some very ancient manuscripts extant in the King of France's library, it is said that the boats by which

the Roman army under Claudius Caudex was transported into Sicily, were propelled by wheels moved by oxen. And in many old military treatises the substitution of wheels for oars is mentioned."* "Although an old work on China," says another authority,† "contains a sketch of a vessel moved by four paddle-wheels, and used perhaps in the seventh century, the earliest distinct notice of this means of propulsion appears to be by Robertus Vulturius, in A.D. 1472, who gives several wood-cuts representing paddle-wheels."

The first use of steam in connection with the propulsion of vessels is perhaps that said to have been made by Blasco de Garay, in 1543. He had proposed to the Emperor Charles V. the construction of an engine capable of moving large vessels in a calm, and without the use of sails or oars. "In spite of the opposition this project encountered, the emperor consented to witness the experiment, which was accordingly made in the *Trinity*, a vessel of 200 tons, laden with corn, in the port of Barcelona, on the 17th June, 1543. Garay, however, would not uncover his machinery, or exhibit it publicly, but it was evident that it consisted of a cauldron of boiling water (*una gran caldera de aqua hirviendo*), and of two wheels set in motion by that means, and applied externally on each side (*banda*) of the vessel.

"The persons commissioned by the emperor to report on the invention seem to have approved it, commending especially the readiness with which the vessel tacked. The Treasurer Ravago, however, observed that a ship with the proposed machinery could not go faster than two leagues in three hours; that the apparatus was complex and expensive; and that there was danger of the boiler bursting. The other commissioners maintained that such a vessel might go at the rate of a league an hour, and would tack in half the time required by an ordinary ship. When the exhibition was over, Garay removed the apparatus from the *Trinity*, depositing the woodwork in the arsenal at Barcelona, but retaining himself the rest of the machinery. Notwithstanding, however, the objections urged by Ravago, the emperor was inclined to favour his project, but his attention at the time was engrossed by other matters. Garay was, however, promoted, and received a sum of money, besides the expenses of the experiment made at Barcelona." The above account is from Spanish sources, supposed to be authentic, till Mr. MacGregor, in 1857, made a journey into Spain for the express purpose of verifying them. The conclusions to which he came were that the paddle-wheels were turned by men.

About this epoch, however, frequent mention is made of means of propulsion other than by sails or oars, and it is evident that men of learning in various places were nearly simultaneously musing and thinking over the matter. J. C. Scaliger (who died 1558) published at Frankfort a short account of a vessel to be propelled without oars. Another inventor‡ a few years later, says quaintly, "And furthermore you may make a boat to goe without oares or sayle, by the placing of certain wheeles on the outside of the boate, in that sort, that the armes of the wheeles may goe into the water, and so

* Robert Stuart, "Historical and Descriptive Anecdotes of Steam-Engines."

† John MacGregor, in a paper read before the Society of Arts, 14th of April, 1858.

‡ William Bourne, "Inventions or Devises" (1578).

turning the wheeles by some provision, and so the wheeles shall make the boate goe." Bessoni, in 1582, describes a vessel consisting of two hulls decked above,—like the *Castalia* or *Calais-Douvres*—and a wheel worked by ropes and a windlass in the interval between them. Ramelli, in 1588, designed a paddle-wheel flat-bottomed boat, worked by men turning a winch-handle. Indeed, Roger Bacon had, three centuries and a half before, spoken of a "vessel which, being almost wholly submerged, would run through the water against waves and winds with a speed greater than that attained by the fastest London pinnaces."

The power of steam was rapidly becoming understood. In 1601, Baptista Porta (the inventor of the magic-lantern) made many experiments on steam and its condensation, and its relative bulk to water. Rivault shortly after describes the power of steam in bursting a strong bomb-shell, partly filled by water, tightly plugged, and then heated. In 1615, we find Solomon de Caus proving that "water will mount by the help of fire higher than its level;" and Branca, in 1629, applying steam to the vanes of a wheel to make it revolve, as in some toys to-day. In our own country we find David Ramsey, one of the Pages of the King's Bedchamber, obtaining, with a partner, a patent in 1618, "To exercise and put in use *divers newe apt formes or kinds of Engines,* and other pfitable Invenc'ons, as well to plough grounds without horse or oxen, and to make fertile as well as barren peats, salts and sea lands, as inland and upland grounds within the Realmes of England, &c. As, also, to raise waters, *and to make boats for carriages runnin upon the water as swift in calmes, and more safe in storms, than boats full sayled in great windes.*" Twelve years later we find Ramsey applying alone for a patent of most comprehensive character. It was designed "*To raise water from lowe pitts by fire* [the steam-engine]. To make any sort of Milles to go on standing Waters by continual moc'on without the helpe of Windes, Weight, or Horse. To make all sortes of Tapestry without any weaving loome or way even yet in use in this kingdom. *To make Boats, Ships, and Barges to goe against the Wind and Tyde,* &c." And so on through the century. Woodcroft, in his standard work,* enumerates over a dozen more patents having for their object the propulsion of boats and vessels, which were granted before 1700, including one to the celebrated Marquis of Worcester, which, however, did not contemplate the use of steam. In the "Century of Invencions" Lord Worcester says: "By it, I can make a vessel, of as great burden as the river can bear, to go against stream, *which the more rapid it is, the faster it shall advance,* and the moveable part that works it, may be by one man still guided to take advantage of the stream, and yet to steer the boat to any point; and this engine is applicable to any vessel or boat whatsoever, without being, therefore, made on purpose, and worketh these effects:—*it roweth, it draweth, it driveth,* (if needs be) to pass London Bridge against the stream at low water; and a *boat laying at anchor, the engine may be used for loading or unloading.*" Woodcroft explains this as follows: "It is obvious that the Marquis did not, by this, mean a steam-propelled paddle-wheel boat, the action of which would not have been such as he describes; but a rope fastened at one end up the stream, and at the other to the axis of water-wheels laying

* "A Sketch of the Origin and Progress of Steam Navigation," by Bennet Woodcroft.

across the boat, and dipping into the water, so as to be turned by the wheels, would fulfil the conditions proposed of advancing the boat faster, the more rapid the stream; and when at anchor such wheels might have been applied to the other purposes." Floating mills, worked by large water-wheels, may be seen on the Rhine to-day.

Papin, the French philosopher, while in England, witnessed an experiment on the Thames, in which a boat, fitted with revolving oars or paddles, was worked from a kind of treadmill turned round by horses. "The velocity with which this horse-boat was impelled was so great, that it left the king's barge, manned with sixteen rowers, far astern in the race of trial." In 1682, a horse tow vessel was used at Chatham. It was "constructed with a wheel on each side of the vessel, connected by an axle going across the boat, and the paddles were made to revolve by horses moving a wheel turned by a trundle fixed on the axle. It drew but four and a half feet of water, and towed the greatest ships by the help of four, six, or eight horses."

In 1729, Dr. John Allen obtained a patent for his new invention, one which has been revived with some success in later days. It was to propel a vessel by forcing water through the stern, at a convenient distance under the surface of the water, into the sea, by suitable engines on board. "Amongst," says the doctor, "the several and various engines I have invented for this purpose, is one of a very extraordinary nature, whose operation is owing to the explosion of *gunpowder*, I having found out a method of firing gunpowder in vacuo, or in a confined space, whereby I can apply the whole force of it, which is inconceivably great, so as to communicate motion to a great variety of engines, which may also be applied in working mines and other purposes." And again, in 1760, a Swiss clergyman published a pamphlet in London, in which oars worked with springs were to be used, and the expansive power of gunpowder was to be used to bend the springs. He states, candidly enough, that since he arrived in England he had learned that thirty years before a Scotchman had proposed to make a ship proceed by means of gunpowder, but that thirty barrels had scarcely forwarded it ten miles. We may smile at these attempted uses of gunpowder, but they were doubtless suggested by the scientific studies of the day, which were particularly directed to the expansive power of vaporised water. In our own day, steam has been substituted for powder in discharging a cannon. Perkins' "steam-gun" was long one of the curiosities of the Polytechnic Institution.

On the 5th of January, 1769, James Watt obtained a patent for a series of improvements in the steam-engine, one of which was most important in its bearing on naval engines. It was that which provided for steam acting *above* the piston as well as below it, in, of course, the same cylinder. Here was a grand move at once. Previously every engine for pumping, the only practical purpose to which steam was yet put, was worked by a beam engine and pair of cylinders. In 1779, Matthew Wasborough, an engineer of Bristol, obtained a patent, as others, indeed, had before him, for converting a rectilinear into a continuous circular motion. It failed, as the others had done, because they required ratchet wheels, pulleys, &c. The following year James Pickard invented the present connecting-rod and crank, with fly-wheel, and removed the great obstacle to propelling vessels by steam. The following year, again, Watt invented what is now known as the "sun and planet motion," another step in the same direction.

We now approach the name of one of those who are most intimately connected with the history of steam navigation, Patrick Miller of Dalswinton. In 1787 he published a pamphlet* describing a *triple vessel,* propelled by paddle-wheels, and worked by cranks. In it he very distinctly says: "I have also reason to believe that the power of the *steam-engine* may be applied to work the *wheels,* so as to give them a quicker motion, and consequently to increase that of the ship. In the course of this summer I intend to make the experiment," &c. A statement was presented to the Royal Society, Dec. 20th, 1787, regarding experiments made by Mr. Miller in the Firth of Forth, the previous summer, in a *double* vessel, sixty feet long and fourteen and a half feet broad, put in motion by a water-wheel, wrought by a capstan of five bars. On the lower part of the capstan a wheel was fixed, with teeth pointing upwards, to work in a trundle fixed on the axis of the water-wheel. She was worked at from three and a half to five miles an hour, with four or five men at the capstan. Two men propelled her at the rate of two and a half miles.

The vessel was three-masted, and sailed well with a smart breeze, when the wheel was invariably raised above the surface of the water. "After making sundry tacks in the Firth," says the narrator, "with all the sails set, the wind fell to a gentle breeze, when all the sails were taken in, and the following experiments made:—

"The vessel being put in motion by the water-wheel, wrought by five men at the capstern (*sic*) was steered so as to keep the wind right ahead, and her going was found by the log to be three and a half miles in the hour.

"After this the wind was brought on the beam (that situation being considered as the nearest to trying the effect of the wheel in a calm), when five men at the capstern made the vessel to go at the rate of four miles an hour.

"With the wind brought on the quarter, five men caused her to go at the rate of four and a half miles an hour," &c.

And so it goes on. Miller made some very distinct statements as to the distance the different vessels should be placed from each other, and further states that the objection that the sea would separate the different bottoms is not well founded, "top weight not being detrimental to these ships in point of stiffness, all the beams on the different decks may be of the same size; and the strength of these united must be very superior to any weight or force which can operate against it when the ship is afloat, however agitated or high the sea may be." These early experiments are particularly interesting now, when the *Calais-Douvres,* a vessel which must be described hereafter, has proved a success.

Mr. James Taylor may also be considered as one of the authors or inventors of the present system of steam navigation. In a memorial laid before a Select Committee of the House of Commons in 1824, he says:—

"Before, however, entering upon the main object, permit me to introduce it by a short statement explanatory of my connection with Mr. Miller. In the autumn of 1785, I went to live in Mr. Miller's house as preceptor to his two younger sons. I found him a gentleman of great patriotism, generosity, and philanthropy, and at the same time of a

* This brochure is extremely scarce. The curious in such matters will find it reprinted in full in Woodcroft's "Sketch of the Origin and Progress of Steam Navigation."

very speculative turn of mind. Before I knew him he had gone through a very long and expensive course of experiments upon artillery, of which the carronade was the result. When I came to know him he was engaged in experiments upon shipping, and had built several (ships or vessels) upon different constructions, and of various magnitudes. The double vessel seemed to fix his attention most. In the summer of 1786 I attended him repeatedly in his experiments at Leith, which I then viewed as parties of pleasure and amusement. But in the spring of 1787 a circumstance occurred which gave me a different opinion. Mr. Miller had engaged in a sailing match with some gentlemen at Leith, against a Custom House boat (a wherry), which was reckoned a first-rate sailer. A day was appointed, and I attended Mr. Miller. His was a double vessel, sixty feet deck, propelled by two wheels, turned by two men each. * * * Being then young and stout, I took my share of the labours of the wheels, which I found very severe exercise, but it satisfied me that a proper power only was wanting to produce much utility from the invention." This led to long and interesting discussions on the subject, and Miller explained that his principal object was to enable vessels to avoid or extricate themselves from dangerous situations, and also give them powers of motion during calms. He asked Mr. Taylor to give him the benefit of his brains. At last the latter told him that he could suggest no power equal to the steam-engine. The question then became how to apply it. Taylor made sketches according to his ideas, and Mr. Miller then said, "Well, when we go to Edinburgh we will apply to an operative engineer, and take an estimate for a small engine, and if it is not a large sum, we will set about it; but as I am a stranger to the steam-engine, you shall take charge of that part of the business, and we will try what we can make of it.

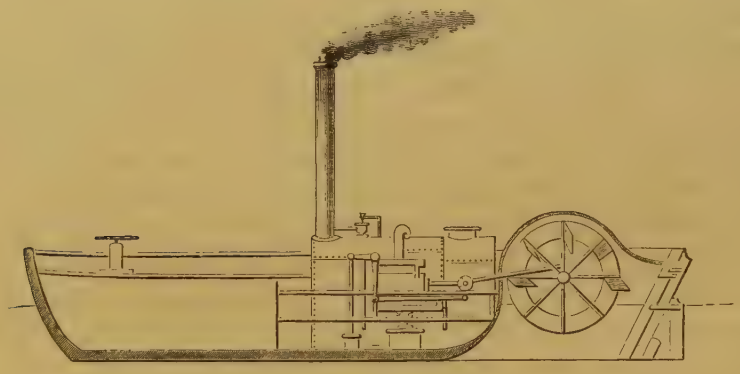
"At this time William Symington, a young man employed at the lead mines at Wanlockhead, had invented a new construction of the steam-engine, by throwing off the air-pump. I had seen a model work, and was pleased with it, and thought it very answerable for Mr. Miller's purpose. Symington had come into Edinburgh that winter for education. Being acquainted with him, I informed him of Mr. Miller's intentions and mine, and asked if he could undertake to apply his engine to Mr. Miller's vessels, and if he could I would recommend him. He answered in the affirmative, and from friendship I recommended both himself and engine, and afterwards introduced him to Mr. Miller. After some conversation, Symington engaged to perform the work, and Mr. Miller agreed to employ him. It was finally arranged that the experiment should be performed on the lake at Dalswinton, in the ensuing summer (1788). Accordingly in the spring, after the classes of the College broke up, I remained in town to superintend the castings, &c., which were done in brass, by George Watt, founder, back of Shakspear Square. When they were finished I sent the articles to the country, and followed myself. After some interval I took Symington with me to Dalswinton to put the parts together. This was accomplished about the beginning of October, and the engine, mounted in a frame, was placed upon the deck of a very handsome double pleasure-boat, upon the lake. We then proceeded to action, and a more complete, successful, and beautiful experiment was never made by any man at any time, either in art or science. The vessel moved delightfully, and notwithstanding the smallness of the cylinders (four

inches diameter), at the rate of five miles an hour. After amusing ourselves a few days, the engine was removed, and carried into the house, where it remained as a piece of ornamental furniture for a number of years." The vessel was 25 feet long and 7 broad. Thus was steam navigation inaugurated! How few of the readers of the *Dumfries Newspaper*, the *Edinburgh Advertiser*, or the *Scots' Magazine*, when reading the brief account printed in their columns, dreamt of the revolution which this interesting and successful little experiment involved. The latter could not see farther than its utility in canals, and other inland navigation. The *Annual Register* for the year does not even mention it.

It was now agreed to repeat the experiment. A double engine with eighteen-inch cylinder was constructed at Carron under Symington's directions. In November, 1789, she was tried on the Forth and Clyde Canal. "After passing Lock 16," says Taylor, we proceeded cautiously and pleasantly for some time, but after giving the engine full play the arms of the wheels, which had been constructed too slight, began to give way, and one float after another broke off, till we were satisfied no accuracy could be attained in the experiment until the wheels were replaced by new ones of a stronger construction. This was done with all possible speed, and upon the 26th December, we again proceeded to action. This day we moved freely without accident, and were much gratified to find our motion nearly seven miles per hour. Next day we repeated the experiment with the same success and pleasure. Satisfied now that everything proposed was accomplished, it was unnecessary to dwell longer upon the business; for, indeed, both this and the experiment of last year were as complete as any performance made by steam-boats, even to the present day." Mr. Miller, who paid all the expenses of these steam experiments, did not pursue them further, and it is to be regretted, inasmuch as his name has not been so popularly associated with the infancy of steam navigation as could be wished. He was an enthusiast in many branches of practical science, and seems latterly to have given his mind more particularly to improvements in agriculture. Mr. Taylor's connection with steam-boat experiments ceased with those of the second boat in 1789. "And it is clear," says Woodcroft, "from his own statement and those of his friends, that he was neither the inventor of the machinery by which either of those boats was driven, nor of the mode of connecting the engines to the boat and wheels." His widow received a small pension from Government, and in 1837 each of his four daughters received a gift of £50 for their father's connection with the experiments. Miller sought no pecuniary aid or reward of any kind; and, although he devoted his time and talents, and expended nearly £30,000 of his own fortune in the improvement of artillery and naval architecture, his services were wholly overlooked by the powers that were. Mr. Woodcroft has very clearly shown that Miller, in spite of the apparent success of the experiments, had not great faith in Symington's machinery, which he describes in a letter "as the most improper of all steam-engines for giving motion to a vessel." We find him much later describing, in a patent specification, a new form of flat boat, with centre-boards and paddle-wheels, still worked by his favourite capstans.

More than ten years elapsed before Symington, the builder of Miller's engines, found another patron. In 1801, Thomas, first Lord Dundas, employed him to fit up a

steam-boat for the Forth and Clyde Canal Company, in which he was a large shareholder. "Having," says Lindsay,* "availed himself of the many improvements made by Watt and others, Symington patented his new engine on the 14th of March of that year, and fitting it on board the *Charlotte Dundas*, named after his lordship's daughter, produced, in the opinion of most writers who have carefully and impartially inquired into this interesting subject, 'the first *practical steam-boat.*'" In March, 1802, the *Charlotte Dundas* made her trial trip on the canal. It was in one sense a fortunate day for the experiment, for a gale of wind blew, and no other vessel attempted to move to windward. The little steamer, towing two barges of seventy tons burden, accomplished the trip to Port Dundas, Glasgow, a distance of 19½ miles, in six hours, or at the rate of 3¼ miles per hour. Lord Dundas, who was on board, thought favourably of the experiment, and in a letter of introduction to the Duke of Bridgewater, recommended Symington's new engine to his notice. His grace almost immediately gave him an order to construct eight vessels similar to the



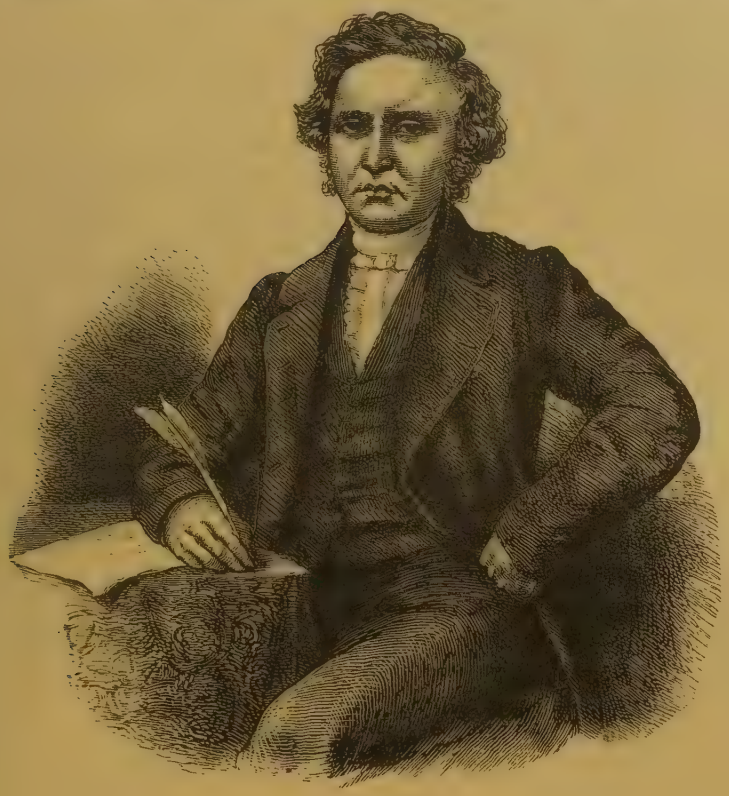
THE "CHARLOTTE DUNDAS."

Charlotte Dundas, and the struggling engineer naturally thought that his fortune was made. Alas! before the arrangements could be consummated the duke died, and the committee who had charge of the canal after his decease, came to the conclusion that the wash from steam-boats would injure its banks. Woodcroft considers that "this vessel might, from the simplicity of its machinery, have been at work to this day with such ordinary repairs as are now occasionally required for all steam-boats," and claims that to Symington belonged "the undoubted merit of having combined for the first time those improvements which constitute the *present system of steam navigation.*" The success of the engine consisted in this: that, "after placing in a boat a double-acting reciprocating engine, he *attached his crank to the axis of the paddle-wheel,*" a combination on which there has been no improvement to the present day, as rotatory motion is secured without the interposition of a lever or beam. So much for the engine, but how about the poor engineer? This boat was laid up in a creek of the canal, where she remained for many years exposed as a curiosity, and perhaps also as a warning to ambitious speculators. Symington's means were nearly exhausted, and after having had to fight Taylor at law in regard to some of

* "History of Merchant Shipping," &c.

the minor inventions employed, we find him in 1825 receiving the miserable gift of £100 from the Privy Purse, and later, a further sum of £50. What a return for labours which so distinctly led to our present system of steam navigation!

In 1797, an experiment which took place in the neighbourhood of Liverpool is recorded in the *Monthly Magazine*, on oars worked by steam; the engine made eighteen strokes per minute, and propelled a vessel, heavily laden with copper slag, through the Sankey Canal. The claims of other countries have also been put forth, but the first attempts at



SYMINGTON.

practical steam navigation belong to Scotland, and, as we shall see, were improved to such an extent in America, that to that country belongs the credit of having first organised a steam-boat line for continuous and paying traffic.

The Americans had at an early period turned their attention to new modes of propelling vessels. As early as 1784, James Rumsey proposed to General Washington a project of steam navigation, but having been refused a patent in Pennsylvania, came to England, and succeeded in inducing a wealthy countryman of his own, then in London, and others to disburse the expenses of an experiment, for which he afterwards obtained a patent. In this also oars were worked by steam. A couple of years later, Fitch obtained from the States of Pennsylvania and New York the exclusive right to run steamers on their waters, and is said to have attained with one of his vessels the rate of four or five miles an hour

against the current of the Potomac. In 1787 he built another vessel, 12 feet beam and 45 feet long, with a 12-inch cylinder, which progressed at the rate of seven miles an hour. In 1790 he completed another and larger boat, which was advertised and used for a time as a regular passenger boat on the Delaware. The oars or paddles were worked from the stern.

Poor Fitch! He, in common with many others of the day who did and did not give their ideas to the world, was on the right track, but could not put them into practical and practicable shape. He was really a man of remarkable genius. The son of a Connecticut farmer, he had been apprenticed to a watch and clock maker, where doubtless he increased his knowledge of the mechanical arts. During the early part of the Revolutionary War, he was armourer to the State of New Jersey, and later, became a land surveyor. While acting in that capacity, the idea first suggested itself to him, as it did almost simultaneously to Symington in Scotland, of propelling carriages by steam, but he soon abandoned it on account of the roughness of the American roads. After that he turned his attention almost exclusively to the propulsion of vessels by steam, visiting England and France, but obtaining no pecuniary advantage from the experiments he proposed or consummated. In a sketch of his life, which appeared a few years since,* the writer describes Fitch's difficulties in raising the money to finish his second steam-boat: "In a letter to David Roltenhouse, when asking an advance of £50 to finish the boat, he says, 'This, sir, whether I bring it to perfection or not, will be the mode of crossing the Atlantic for packets and armed vessels.' But everything failed, and the poor projector loitered about the city for some months, a despised, unfortunate, heart-broken man. 'Often have I seen him,' said Thomas P. Cope, many years afterwards, 'stalking about like a troubled spectre, with downcast eyes and lowering countenance, his coarse soiled linen peeping through the elbows of a tattered garment.' Speaking of a visit he once paid to John Wilson, his boat-builder, and Peter Brown, his blacksmith, in which, as usual, he held forth upon his hobby, Mr. Cope says: 'After indulging himself for some time in this never-failing topic of deep excitement, he concluded with these memorable words: 'Well, gentlemen, although I shall not live to see the time, you will, when steam-boats will be preferred to all other means of conveyance, and especially for passengers; and they will be particularly useful in the navigation of the river Mississippi.' He then retired, on which Brown, turning to Wilson, exclaimed, in a tone of deep sympathy, 'Poor fellow! what a pity he is crazy!'" Fitch, reduced to utter poverty and despair, threw himself into the Alleghany in 1798, and thus terminated his chequered life.

The experiments of John Cox Stevens, of New York, were not particularly successful, although made at an expense of some 20,000 dollars. His vessel was a "stern-wheeler," similar to those common enough on many American rivers to-day. But he deserves the credit, apparently, of having been the first to practically apply a tubular boiler to marine engines. His boiler, only 2 feet long by 15 inches wide and 12 inches high, consisted of no less than 41 copper tubes, each an inch in diameter. While Fitch and Stevens were experimenting, another American citizen, Oliver Evans, was endeavouring to mature a

* *Philadelphia Dispatch*, February 9th, 1873.

plan for using steam at a very high pressure, to be employed in propelling road wagons, and in an account of his plans, which he published in 1786, he suggests a mode of propelling vessels by steam. "He states," says Lindsay, "that in 1785 he placed his engine, used to clean docks, in a boat upon wheels, the combined weight being equal to 200 barrels of flour, which he transported down to the water, and when it was launched he fixed a paddle-wheel to the stern, and drove it down the Schuylkill to Delaware, and up the Delaware to the city, 'leaving all the vessels going up behind, one at least half-way, the wind being ahead.'" In 1794 and 1797 one Samuel Morey, of Connecticut, is said to have built two steamers, which were publicly exhibited and made passages, but which do not appear to have been afterwards employed. It is to Robert Fulton, who all this time was working at naval applications of many kinds, that not merely America, but the whole world owes the practical and continuous use of steam-vessels. He and his associates started the first paying line of steam-boats.

The life of this remarkable man is little known in England, and not generally even in his own country. Pursuing then the plan which has guided the writer throughout this work, he proposes to give it, for these very reasons, in fuller detail than has been usual with better known examples of patient and struggling inventors.

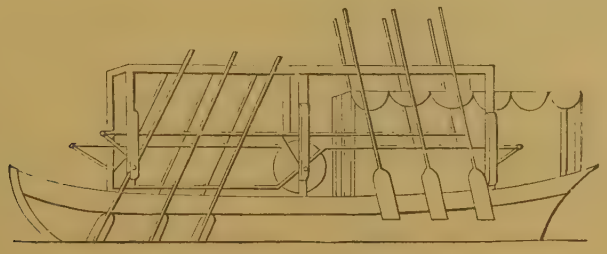
Robert Fulton was born in the year 1765, in the village of Little Britain, Pennsylvania, of respectable, but not wealthy, parents. From his earliest years he showed a great aptitude for the study of the mechanical arts, and, indeed, for the fine arts also. So marked was his progress in drawing and painting, that he was recommended to go to England and study art seriously. This at length he did, and for several years we find him an inmate of Benjamin West's house. Most readers will remember that West, although he spent the larger part of his life in England, and made his great successes there, was by birth American. Fulton afterwards lived in Devonshire and other parts of England, and practised art for a time, while his brain was busy with schemes for improving inland navigation by the construction of canals, with new forms of bridges and aqueducts. Next we find him in France living with the family of one of his countrymen, Joel Barlow; during this period he painted a panorama, which was a great success. In 1797 he experimented with carcases of gunpowder—practically torpedoes—under water, and was engaged in perfecting a wonderful submarine boat. The French and Dutch Governments gave him some little encouragement, so far as fair words were concerned, and he wasted a considerable amount of time in hanging about public offices, to be eventually disappointed, for his plans were rejected.

But the French Government changed. Bonaparte placed himself at the head of it, with the title of First Consul. Mr. Fulton soon presented an address to him, soliciting him to patronise the project for submarine navigation, and praying him to appoint a commission with sufficient funds and powers to give the necessary assistance. This request was immediately granted, and the citizens Volney, La Place, and Monge were named the commissioners. In the spring of the year 1801, Mr. Fulton repaired to Brest, to make experiments with the plunging-boat he had constructed the previous winter. This, so he says, had many imperfections, natural to a first machine of such complicated combinations; added to this, it had suffered much injury from rust in consequence of his having been

obliged to use iron instead of brass or copper for bolts and arbours. Notwithstanding these disadvantages, he engaged in a course of experiments with the machine, which required no less courage than energy and perseverance. Of his proceedings he made a report to the committee appointed by the French executive, from which report we learn the following interesting facts:—

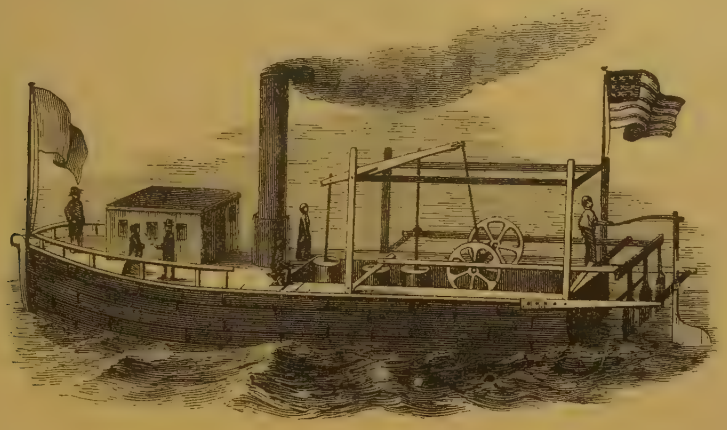
"On the 3rd July, 1801, he embarked with three companions on board his plunging-boat in the harbour of Brest, and descended in it to the depth of five, ten, fifteen, and so to twenty-five feet; but he did not attempt to go lower, because he found that his imperfect machine would not bear the pressure of a greater depth. He remained below the surface one hour. During this time they were in utter darkness. Afterwards, he descended with candles; but, finding a great disadvantage from their consumption of vital air, he caused, previously to his next experiment, a small window of thick glass to be made near the bow of his boat, and he again descended with her, on the 24th July, 1801. He found that he received from his window, or rather aperture covered with glass, for it was no more than an inch and a half in diameter, sufficient light to enable him to count the minutes on his watch. Having satisfied himself that he could have sufficient light when under water, that he could do without a supply of fresh air for a considerable time, that he could descend to any depth, and rise to the surface with facility, his next object was to try her movements as well on the surface as beneath it. On the 26th July he weighed his anchor and hoisted his sails; his boat had one mast, a mainsail, and a jib. There was only a light breeze, and, therefore, she did not move on the surface at more than the rate of two miles an hour, but it was found that she would tack and steer, and sail on a wind or before it, as well as any common sailing-boat. He then struck her mast and sails; to do which, and perfectly to prepare the boat for plunging, required about two minutes. Having plunged to a certain depth, he placed two men at the engine, which was intended to give her progressive motion, and one at the helm, while he, with a barometer before him, governed the machine which kept her balanced between the upper and lower waters. He found that with the exertion of one hand only, he could keep her at any depth he pleased. The propelling engine was then put in motion, and he found, upon coming to the surface, that he had made, in about seven minutes, a progress of four hundred meters, or about five hundred yards. He then again plunged, turned her round while under water, and returned to near the place he began to move from. He repeated his experiments several days successively, until he became familiar with the operations of the machinery and the movements of the boat. He found that she was as obedient to her helm under water as any boat could be on the surface; and that the magnetic needle traversed as well in the one situation as in the other. On the 7th August, Mr. Fulton again descended with a store of atmospheric air compressed into a copper globe of a cubic foot capacity, into which two hundred atmospheres were forced. Thus prepared, he descended with three companions to the depth of about five feet. At the expiration of an hour and forty minutes, he began to take small supplies of *pure* air from his reservoir, and did so, as he found occasion, for four hours and twenty minutes. At the expiration of this time he came to the surface, without having experienced any inconvenience from having been so long under water."

Fulton's boat is pretty evidently the original from which Jules Verne took the idea of his wonderful submarine ship, the *Nautilus*. It was utilised for an important torpedo experiment, and a shallop was successfully blown up at Brest in the presence of Admiral Villaret and other officials. The submarine boat approached within two hundred yards of the hull which



OUTLINE OF FITCH'S FIRST BOAT.

was to be destroyed, and fired its torpedo under water. The French Government employed him for a time to cruise about and watch our vessels, but no opportunity seems to have occurred for any attack, and he was evidently looked upon as a failure. In 1803, a correspondence passed between the English Government and Fulton, and he was induced



FITCH'S SECOND BOAT.

to come to London, where he had an interview with Mr. Pitt and Lord Melville. "When Mr. Pitt first saw a drawing of a torpedo, with a sketch of the mode of applying it, and understood what would be the effects of its explosion, he said, that if introduced into practice, it could not fail to annihilate all military marines." Fulton accompanied an expedition sent against the French flotilla in the roads of Boulogne, where his torpedoes were launched, but did no damage.

On the 15th October, 1805, he blew up a strongly built Danish brig, of the burden of 200 tons, which had been provided for the experiment, and which was anchored in Walmer roads, near Deal, within a mile of Walmer Castle, the then residence of Mr. Pitt.

He has given an interesting account of this experiment in a pamphlet which he published in this country, under the title of "Torpedo War." In a letter to Lord Castlereagh, of the 16th October, 1805, he says, "Yesterday, about four o'clock, I made the intended experiment on the brig, with a carcass of one hundred and seventy pounds of powder; and I have the pleasure to inform you that it succeeded beyond my most sanguine expectations. Exactly in fifteen minutes from the time of drawing the peg and throwing the carcass into the water, the explosion took place. It lifted the brig almost bodily, and broke her completely in two. The ends sunk immediately, and in one minute nothing was to be seen of her but floating fragments. Her mainmast and pumps were thrown in the sea; her foremast was broken in three pieces; her beams and knees were thrown from her deck and sides, and her deck planks were rent to fibres. In fact, her annihilation was complete, and the effect was most extraordinary. The power, as I had calculated, passed in a right line through her body, that being the line of least resistance, and carried all before it. At the time of her going up she did not appear to make more resistance than a bag of feathers, and went to pieces like a shattered egg-shell."

Notwithstanding the complete success of the experiment, the British ministry seem to have been but little disposed to have anything further to do with Mr. Fulton and his projects. Indeed, the evidence it afforded of their efficiency may have been a reason for this. However Mr. Pitt and Lord Melville may have thought on the subject, there had been a change in the administration, and the new ministers probably agreed with the Earl St. Vincent, that it was great folly in them to encourage a project which, if it succeeded, would revolutionise all maritime questions. Lord Grenville and his Cabinet were not only indisposed to encourage Mr. Fulton, but they were unwilling to fulfil the engagements which their predecessors had made, and that inventor, after some further experiments, of which we have no particular account, wearied with incessant applications, disappointments, and neglect, at length embarked for his native country.

But Fulton's greatest fame rests on his steam-boats. In his first attempt made in France, where he was aided by Mr. Robert R. Livingston, a fellow-countryman, he was not successful. Their experimental boat was completed early in the spring of 1803; they were on the point of making an experiment with her, when one morning, as Mr. Fulton was rising from a bed in which anxiety had given him but little rest, a messenger from the boat, whose precipitation and apparent consternation announced that he was the bearer of bad tidings, presented himself to him, and exclaimed in accents of despair, "Oh, sir, the boat has broken to pieces and gone to the bottom!" Mr. Fulton, who himself related the anecdote, declared that the news created a despondency which he had never felt on any other occasion; but this was only a momentary sensation. Upon examination, he found the boat had been too weakly framed to bear the great weight of the machinery, and that, in consequence of an agitation of the river by wind the preceding night, what the messenger had represented had literally happened. The boat had broken in two, and the weight of her machinery had carried her fragments to the bottom. It appeared to him, as he said, that the fruits of so many months' labour, and so much expense, were annihilated, and an opportunity of demonstrating the efficiency of his plan was denied him at the moment he had promised it should be displayed. His disappointment and feelings may easily be imagined, but they did not check his

perseverance. On the very day that this misfortune happened, he commenced repairing it. He did not sit down idly to repine at misfortunes which his manly exertions might remedy, or waste in fruitless lamentations a moment of that time in which the accident might be repaired. Without returning to his lodgings, he immediately began to labour with his own hands to raise the boat, and worked for four and twenty hours incessantly, without allowing himself rest or refreshment; an imprudence which, as he always supposed, had a permanently bad effect on his constitution, and to which he imputed much of his subsequent ill health.

The accident did the machinery very little injury; but they were obliged to build the boat almost entirely anew. She was completed in July; her length was sixty-six feet, and she was eight feet wide. Early in August, Mr. Fulton addressed a letter to the French National Institute, inviting them to witness a trial of his boat, which was made in their presence, and in the presence of a great multitude of the Parisians. The experiment was entirely satisfactory to Mr. Fulton, though the boat did not move altogether with as much speed as he expected. But he imputed her moving so slowly to the extremely defective fabrication of the machinery, and to imperfections which were to be expected in the first experiment with so complicated a machine, but which he saw might be easily remedied. Such entire confidence did he acquire from this experiment, that immediately afterwards he wrote to Messrs. Watt and Boulton, of Birmingham, ordering certain parts of a steam-engine to be made for him and sent to America. He did not disclose to them for what purpose the engine was intended, but his directions were such as would produce the parts of an engine that might be put together within a compass suited to a boat. Mr. Fulton then designed to return to America immediately; but, as we have seen, he first visited England, and it is probable that he then gave new orders on this subject, as we find that the engine which was employed in the first American Fulton boat was of the manufacture of Messrs. Watt and Boulton, but it did not arrive in America till long after the time of which we are speaking.

Mr. Livingston also wrote immediately after this experiment to his friends in America, and through their interference, an Act was passed by the Legislature of the State of New York, on the 5th of April, 1803, by which the rights and exclusive privileges of navigating all the waters of that State, by vessels propelled by fire or steam, granted to Mr. Livingston by the Act of 1798, were extended to Mr. Livingston and Mr. Fulton for the term of twenty years from the date of the new Act. By this law, the time for producing proof of the practicability of propelling by steam a boat of twenty tons' capacity, at the rate of four miles an hour, with wind against the ordinary current of the Hudson River, was extended for a period of two years. And by a subsequent law the time was enlarged to April, 1807.

Very soon after Mr. Fulton's arrival in New York he commenced building the first American boat. While she was constructing, he found that her expenses would greatly exceed his calculation. He endeavoured to lessen the pressure on his own finances by offering one-third of the exclusive right which was secured to him and Mr. Livingston by the laws of New York, and of his patent rights, for a proportionate contribution to the expense. He made this offer to several gentlemen, and it was very generally known that

he had made such propositions; but no one was then willing to afford this aid to his enterprise.

"In the spring of 1807, the first Fulton boat built in America was launched from the ship-yards of Charles Brown, on the East River. The engine from England was put on board of her; in August she was completed, and was moved by her machinery from her birth-place to the Jersey shore. Mr. Livingston and Mr. Fulton had invited many of their friends to witness the first trial. Nothing could exceed the surprise and admiration of all who witnessed the experiment. The minds of the most incredulous were changed in a few minutes. Before the boat had made the progress of a quarter of a mile, the greatest unbeliever must have been converted. The man who, while he looked on the expensive machine, thanked his stars that he had more wisdom than to waste his money on such idle schemes, changed the expression of his features as the boat moved from the wharf and gained her speed; his complacent smile gradually stiffened into an expression of wonder. The jeers of the ignorant, who had neither sense nor feeling enough to suppress their contemptuous ridicule and rude jokes, were silenced for a moment by a vulgar astonishment, which deprived them of the power of utterance, till the triumph of genius extorted from the incredulous multitude which crowded the shores shouts and exclamations of congratulation and applause."

There can be no doubt that Fulton derived his general plan from the experiments of Symington. While that engineer was conducting his experiments under the patronage of Lord Dundas, a stranger came to the banks of the Forth and Clyde Canal and requested an interview, announcing himself as Mr. Fulton, of the United States, whither he intended to return, and expressing a desire to see Mr. Symington's boat and machinery, and to procure some information of the principles on which it was moved, before he left Europe. He remarked that, however beneficial the invention might be to Great Britain, it would be of more importance to North America, considering the numerous navigable rivers and lakes of that continent, and the facility for procuring timber for building vessels and supplying them with fuel; that the usefulness of steam-vessels in a mercantile point of view could not fail to attract the attention of every observer; and that, if he were allowed to carry the plan to the United States, it would be advantageous to Mr. Symington, as, if his engagements would permit, the constructing or superintending the construction of such vessels would naturally devolve upon him. Mr. Symington, in compliance with the stranger's request, caused the engine-fire to be lighted, and the machinery put in motion. Several persons entered the boat, and along with Mr. Fulton were carried from where she then lay to Lock No. 16 on the Forth and Clyde Canal, about four miles west, and returned to the starting-place in one hour and twenty minutes, being at the rate of six miles an hour, to the astonishment of Mr. Fulton and the other gentlemen. Mr. Fulton obtained leave to take notes and sketches regarding the boat and engine, "but he never afterwards communicated with Mr. Symington."* He, it has been shown, almost immediately afterwards ordered a marine engine from Messrs. Boulton and Watt, of Soho, near Birmingham. This engine reached America before the *Clermont*, which had

* *Vide* "Bowie on Steam Navigation;" and the works of Lindsay and Woodcroft, already quoted.

been constructed at the instance of Fulton and Livingston, had been launched from the yard of Charles Brown, on the East (Hudson) River. She was decked for a short distance only, at stem and stern, her engines being open to view, while a house on deck, and over the boiler, accommodated passengers and crew. *The boiler was set in masonry.* Her engine was of almost identical size to that of the *Charlotte Dundas.* It is right to add that Fulton claimed no patent or privilege for this engine, which was so evidently founded on that of Symington. Her hull was quite as distinctly his own design, and was vastly superior in build to the Scotch vessel. The first trip of the *Clermont* was from New York to Clermont, the seat of Mr. Livingston, returning to Albany, and the average speed was five miles per hour.

THE "CLERMONT."

"The *Clermont,* on her first voyage, arrived at her destination without any accident. She excited the astonishment of the inhabitants of the shores of the Hudson, many of whom had not heard even of an engine, much less of a steam-boat. There were many descriptions of the effects of her first appearance upon the people on the banks of the river; some of those were ridiculous, but some of them were of such a character as nothing but an object of real grandeur could have excited. She was described by some who had indistinctly seen her passing in the night, to those who had not had a view of her, as a monster moving on the waters, defying the winds and tide, and breathing flames and smoke. She had the most terrific appearance from other vessels which were navigating the river when she was making her passage. The first steam-boats, as others yet do, used dry pine-wood for fuel, which sends forth a column of ignited vapour many feet above the flue, and whenever the fire is stirred a galaxy of sparks fly off, and in the night have a very brilliant and beautiful appearance. This uncommon light first attracted the attention of the crews of other vessels. Notwithstanding the wind and tide were adverse to its approach, they saw with astonishment that it was rapidly coming towards them; and when it came so near as that the noise of the machinery and paddles was heard, the crews (if what was said in the newspapers of the time be true), in some instances,

shrunk beneath their decks from the terrific sight, and left their vessels to go on shore, while others prostrated themselves, and besought Providence to protect them from the approaches of the horrible monster which was marching on the tides and lighting its path by the fires which it vomited."

The *Clermont* was soon afterwards lengthened and considerably improved in appearance and usefulness. Her hull was covered from stem to stern with a flush deck, beneath which two cabins were formed, surrounded by double ranges of berths, and fitted up with great regard to comfort. Her dimensions now were—length, 130 feet; breadth, 16½ feet; diameter of paddle-wheels, 15 feet, the paddles dipping into the water 2 feet. Fulton afterwards built a number of steam-boats, and, it will be well understood, encountered a vast deal of opposition from the owners of sailing craft and ferry-boats. Attempts were also made to put forward rival inventions, and a company was started who proposed to navigate boats on the Hudson by the following somewhat incomprehensible mode of propulsion. The quotation is from the biography of Fulton* by his friend, C. D. Colden:—

"The opposition boats on the Hudson, which the owners had built to rival the steam-boats, were at first to have been propelled by a pendulum, which, according to the calculations of some ingenious gentlemen, would give a greater power than steam, but when their boat came to be put in the water they soon found that their wheels, which were turned with great facility and velocity while their vessel was on the stocks, could not be made to perform their functions without the application of a great power to the pendulum. The projectors were utterly at a loss to account for so extraordinary a phenomenon, and could not conceive why the wheels, which had moved so much to their satisfaction when they were resisted only by the air, should require so much force when they turned in the water, and were to drag the weight of the vessel. But having by actual experiment determined that a pendulum would not supply the place of steam, and knowing no other way of supplying steam than that which they saw practised in the Fulton boats, they adopted all their machinery with some very insignificant alterations, which were made with no other view than to give those persons who had set out by professing to make a pendulum-boat a pretence for claiming to be the inventors of improvements in steam-boats."

Fulton, without doubt, designed and superintended the construction of the first steam war-vessel. On the 20th June, 1814, the keel was laid, and in little more than four months, that is, on the 29th October, she was launched from the yard of Adam and Noah Brown, her able and active architects. The scene exhibited on that occasion was magnificent. It happened on one of the brightest autumnal days. "Spectators," says Colden, "crowded the surrounding shores, and were seen upon the hills which limited the beautiful prospect. The river and bay were filled with vessels of war, dressed in all their variety of colours, in compliment to the occasion. In the midst of these was the enormous floating mass whose bulk and unwieldy form seemed to render her as unfit for motion as the land batteries which were saluting her. Through the fleet of vessels which occupied this part of the harbour were seen gliding in every direction several of our large steam-boats, of the burden of three or four hundred tons. These, with bands of music, and crowds of gay and

* "The Life of R. Fulton" is an American work, and so little known in England, that the present writer has intentionally made the above copious extracts from it.

joyous company, were winding through passages left by the anchored vessels as if they were moved by enchantment. The heart could not have been human that did not share in the general enthusiasm expressed by the loud shouts of the multitude. He could not have been a worthy citizen, who did not then say to himself, with pride and exultation, 'This is my country!' and when he looked on the man whose single genius had created the most interesting objects of the scene, 'This is my countryman!'"

By May, 1815, her engine was put on board, and she was so far completed as to afford an opportunity of trying her machinery. But, unhappily, before this period the mind that had conceived and combined it was gone. Fulton, almost to the last day of his life, worked incessantly at this, the first steam war-vessel.

On the 4th July, in the same year, the steam frigate made a passage from New York to the ocean and back, and went the distance—which, going and returning, is fifty-three miles—in eight hours and twenty minutes, by the mere force of her engine. These trials suggested the correction of some errors, and the supplying of some defects in the machinery. In September she made another passage to the sea, and having at this time the weight of her whole armament on board, she went at an average of five and a half miles an hour, with and against tide. When stemming the tide, which ran at the rate of three miles an hour, she advanced at the rate of two and a half miles an hour.

We now reach the period which brings us to practical steam navigation in Europe. In January, 1812, Henry Bell, of Helensburgh, Scotland, completed the construction of a small passenger steam vessel, the *Comet*, of thirty tons burden. She was only forty feet in length, with an engine of three-horse power. The circular which announced its regular trips is worth reprinting, as it is the first advertisement of the kind made in all Europe. It reads as follows:—

"Steam Passage Boat, the *COMET*, between Glasgow, Greenock, and Helensburgh, for passengers only.

"The Subscriber having, at much expense, fitted up a handsome vessel to ply upon the river Clyde, between Glasgow and Greenock, to sail by the power of wind, air and steam, he intends that the vessel shall leave the Broomielaw on Tuesdays, Thursdays, and Saturdays about mid-day, or at such hour thereafter as may answer from the state of the tide; and to leave Greenock on Mondays, Wednesdays, and Fridays in the morning, to suit the tide.

"The elegance, comfort, safety, and speed of this vessel requires only to be proved to meet the approbation of the public; and the proprietor is determined to do everything in his power to merit public encouragement.

"The terms are for the present fixed at four shillings for the best cabin, and three shillings for the second, but beyond these rates nothing is to be allowed to servants or any other person employed about the vessel.

"The Subscriber continues his establishment at Helensburgh Baths, the same as for years past, and a vessel will be in readiness to convey passengers in the *Comet* from Greenock to Helensburgh.

"Passengers by the *Comet* will receive information of the hour of sailing by applying at Mr. Houslem's office, Broomielaw, or Mr. Thomas Blackney's, East Quay Head, Greenock.

"(Signed), HENRY BELL.

"Helensburgh Baths, Aug. 5, 1812."

Bell's claims to recognition are very much the same as those of Fulton and Livingston in the United States. He was instrumental in bringing steam navigation to a practical issue, but was not its inventor or first introducer. In 1816, he addressed an interesting letter to the *Caledonian Mercury*, showing the intimacy which existed between himself and Fulton, and proving that the leaders of the new steam movement were in frequent communication.

BELL'S "COMET."

In this letter he commences by recapitulating Miller's experiments in propelling vessels or rafts by paddles worked by capstans or by wind, like a windmill. These ideas were communicated to all the Courts of Europe, and the French, at one time, actually proposed something of the nature of rafts worked by Miller's plan, for the conveyance of troops to England. Miller sent one of his capstan vessels as a present to the King of Sweden. Bell makes the following statement:—

"Fulton came to the knowledge of steam-boats by employing me (H. Bell) about some plans of machinery, and begged me to call on Miller and see how he had succeeded in his steam-boat plan; and if it answered, to send him full drawings and description along with my machinery. I had a conversation with Miller, who gave me every information. I (H. Bell) told him that his engineer was wrong, and that I intended giving Fulton my opinion on steam-boats. I left Fulton's letter with Miller.

FOUR GREAT ENGINEERS.

"Two years after, a letter from Fulton arrived, stating that he had constructed a steam-boat from the drawings I had sent him, but improvements were required. This letter I also sent to Miller."

He goes on to say that he set on foot his steam-boat after making various models, and when convinced they would answer, contracted with John Wood and Co., ship-builders, Port Glasgow, to build the *Comet*, so called from a comet which appeared in Scotland at that period. He claims that the *Comet* was the first steam-vessel built in Europe "that would work," but this is unfair to the memories of Miller and Symington.

Oddly enough, while Bell was experimenting on the Clyde, Mr. Dawson was doing the same in Ireland. He even claims that he built a fifty-ton steamer in 1811, and which, by a coincidence simply, as it would seem, he had also named the *Comet*. He put the first steamer for public accommodation on the Thames in 1818, to run between London and Gravesend. Mr. Lawrence, of Bristol, introduced a steam-boat on the Severn shortly after Bell put the *Comet* on the Clyde, and brought her to London, but so great was the opposition from the watermen that he took her back to Bristol. She was afterwards taken to Spain, and long plied between Seville and St. Lucar. These were the precursors of those grand steam-ship lines which now run to every part of the habitable world. Bell's steamer was made, in the second year of its career, a pleasure-boat to many parts of the coasts of England, Scotland, and Ireland, and may therefore count as one of the first ocean-going as well as river steamers.

CHAPTER VI.

The History of Ships and Shipping Interests (*continued*).

The Clyde and its Ship-building Interests—From Henry Bell to Modern Ship-builders—The First Royal Naval Steamer—The First Regular Sea-going Steamer—The Revolution in Ship-building—The Iron Age—"Will Iron Float?"—The Invention of the Screw-propeller—Ericsson, Smith, and Woodcroft—American 'Cuteness—Captain Stockton and his Boat—The First Steamer to Cross the Atlantic—Voyages of the *Sirius* and *Great Western*—The International Struggle—The Collins and Cunard Lines—Fate of the *Arctic*—The *Pacific* never heard of more—Why the Cunard Company has been Successful—Splendid Discipline on Board their Vessels—The Fleets that Leave the Mersey.

What a contrast to the days of Henry Bell does the Clyde now present! From a mere salmon stream it has become, in little more than half a century, by far the largest and most important ship-building river in the wide world. "Ancient historians have told us that when the first Punic war roused the citizens of Rome to extraordinary exertions in the equipment of a fleet for the destruction of the maritime supremacy of Carthage, the banks of the Tiber resounded with the axe and the hammer, and that the extent of the ship-building operations then carried on was a matter not merely of surprise, but of wonder. How insignificant, however, was that sound when compared with that of the steam-hammer and the anvil, and the din of the work now to be heard on the banks of the Clyde. For miles on both sides of the river stupendous ship-building yards line its banks, employing tens of thousands of hardy and skilled mechanics earning their daily

bread, as God has destined all men to do, by 'the sweat of their brow.' . . . Along those banks there is now annually constructed a much larger amount of steam tonnage than in all the other ports of Europe combined, those of England alone excepted." These great private yards have been and will be invaluable in war times. Take such a firm as that of John Elder and Co., Fairfield, Glasgow, whose works cover sixty acres of ground. They have built vessels in the course of a year aggregating 35,000 to 40,000 tons, and have contracted for as many as six 4,000-ton steam-ships at a time. One of these was delivered to her owners complete and ready for sea, with steam up, within thirteen months of the time she was contracted for. Bell's *Comet* was only of thirty tons, and its engine but of four-horse power! Mr. James Deas, C.E., in a work on the Clyde and its commerce, &c., says:—"It was no uncommon occurrence for the passengers, when the little steamer was getting exhausted, to take to turning the fly-wheel to assist her."* Poor Bell, like so many of the pioneers of grand and important undertakings, did not profit much by his successful application of steam to navigation, and in his declining years was chiefly supported by an annuity of £50 granted by the Clyde trustees.

While the public, after the successful experiments already mentioned, and others which followed, were beginning to appreciate the value of steamers, the Admiralty would have nothing to do with them, and it took them about forty years before they reluctantly applied steam to war vessels. The absolutely first steam vessel built for the Royal Navy was a tug, also named the *Comet*. She was constructed in 1819, after some experiments had convinced Lord Melville and Sir George Cockburn of the value of steam power in towing men-of-war. "At this period, Mr. Rennie, who planned the breakwater at Plymouth and new London Bridge, was 'advising engineer' to the Admiralty, and on every occasion urged the application of steam power to vessels of war. More than this, he hired at his own cost the Margate steam-boat, the *Eclipse*, and successfully towed the *Eastings*, 74, against the tide from Woolwich to Gravesend, June 14th, 1819. On this, the Admiralty, supported by Lord Melville, gave up their objections."†

Still, practically, it was not till after the Crimean war that steam became the leading motive power in our war navy. The merchants were more sensible. Mr. David Napier had, in 1818, launched a steamer of ninety tons burden—the *Rob Roy*—from the yard of Mr. William Denny, of Dumbarton. For two years she ran between Glasgow and Belfast, carrying the mails, and was the first *regular sea-going steamer* which had been built in either Europe or the United States. But she also calls for particular mention for another reason: she was subsequently transferred to the English Channel as a packet-boat between Dover and Calais. And there are still, no doubt, many travellers or residents of those towns who can remember the inauguration of what is now a most important service. The same Napier, whose name is very intimately connected with the history of the marine engine, which he was constantly striving to improve, inaugurated, with the assistance of capitalists, a line between Liverpool, Greenock, and Glasgow. Next followed a line from London to Leith, which commenced with two steamers, each fitted with engines of fifty horse-power. Now came an immense advance, for in 1826, the first of the then considered "leviathan" class of steamers—the *United Kingdom*—

* The engine of this vessel is to be seen in the Patent Office Museum.

† Smiles' "Lives of the Engineers."

was built for the trade between London and Edinburgh. She was 160 feet long, with engines of 200 horse-power. "People flocked from all quarters to inspect and admire her."

Although these two lines of regular steam communication between Liverpool and the river Clyde, and between London and Edinburgh, were now successfully established and proved of considerable importance in the encouragement of steam navigation elsewhere, some years elapsed before those rapid strides were made in its adaptation as a propelling power which have rendered it one of the wonders of the present age. Indeed, this power would probably never have made such an extraordinary advance had iron not been adopted instead of wood for the construction of our ships.

Hitherto throughout all ages, timber alone had been used in ship-building. The forests

THE "UNITED KINGDOM."
(From a Drawing by E. W. Cooke, R.A.)

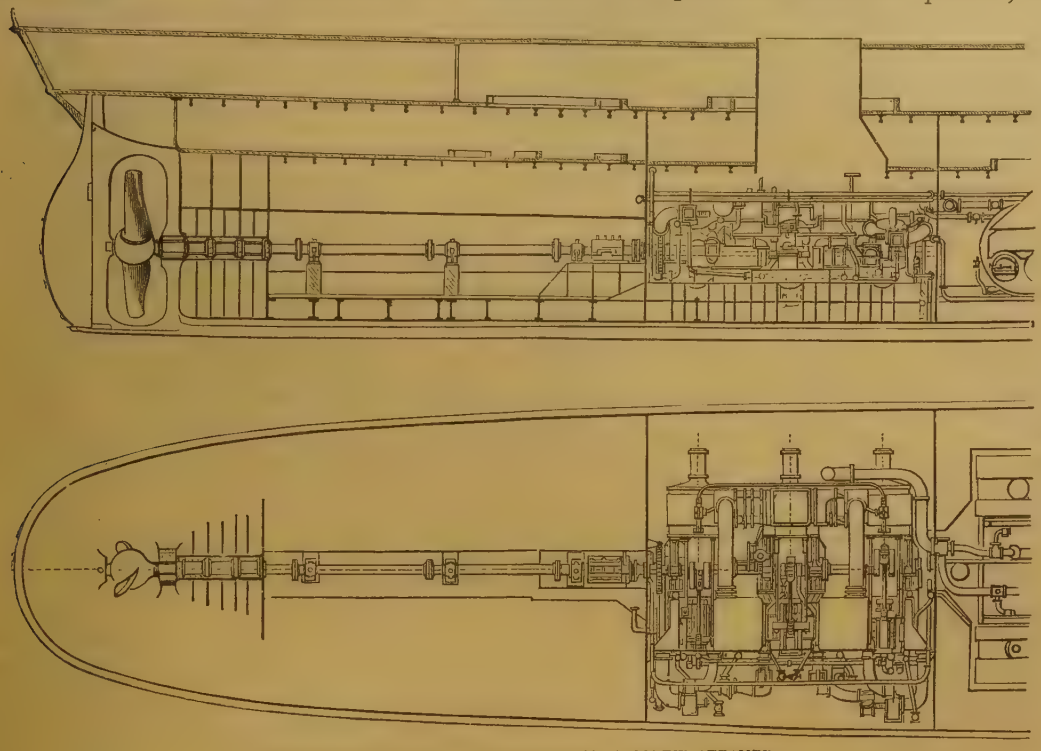
of Lebanon had supplied the naval architects of Tyre with their materials; Italy cultivated her woods with unusual care so that sufficient trees might be grown for the timber-planking and masts of ships for its once powerful maritime republics; and in our own time how often have we heard fears expressed that Great Britain would not be able to continue the supply of sufficient oak for her royal dockyards, much less for her merchant fleets? Yet, when shrewd, far-seeing men, no farther back than the year 1830, talked about substituting iron for the "ribs" of a ship instead of "timber," and iron plates for "planking" instead of oak, what a howl of derision the public raised.

"'Who ever heard of iron floating?' they derisively inquired," says Lindsay. "It is true they might have seen old tin kettles float on every pool of water before their doors almost any day of their lives—nay, floating even more buoyantly than their discarded wooden coal-boxes, but such common-place instructors were beneath their notice. Timber-built ships had from time immemorial been in use in every nation and on every sea, and

ARRIVAL OF THE "GREAT WESTERN" AT NEW YORK.

had bravely battled with the storm from the days of Noah, and were these, they sneeringly asked, to be supplanted by a material which in itself would naturally sink? Such was the reasoning of the period; and, indeed, the best of the arguments against the use of iron rested on scarcely more solid foundation." *

It is true that so early as 1809, Richard Trevethick and Robert Dickenson had proposed to build "large ships with decks, beams, and sides of plate iron," and had even suggested "masts, yards, and spars" of iron, which latter are now by no means uncommon. "But," says Lindsay, "as these inventors or patentees did not put their ideas into practice, no



SECTION AND PLAN OF THE STERN OF A SCREW STEAMER.

other person (if, indeed, any other person gave even a passing thought to the subject) was convinced that any craft beyond a boat or a river-barge could be constructed of iron, much less that if made in the form of a ship, this material would oppose more effectual resistance to the storms of the ocean, or, if dashed upon the strand, to the angry fury of the waves, than timber, however scientifically put together. But though no available substance can withstand the raging elements with less chance of destruction than plates of iron

* In an able pamphlet, "The Fleet of the Future," by Mr. Scott Russell, published by Longmans & Co. in 1861, the author remarks (p. 20) :—"A good many years ago, I happened to converse with the chief naval architect of one of our dockyards on the subject of building ships of iron. The answer was characteristic, and the feeling it expressed so strong and natural that I have never forgotten it. 'Don't talk to me about iron ships, *it's contrary to nature*.' There was at one time almost as great a prejudice against Indian teak as a material for shipbuilding, as this wood is heavier than water, and, in the form of a log, will not float."

riveted together in the form of a boiler (the principle on which iron ships are now constructed), the public could not then appreciate their superior value; and it was not until 1818 that the first *iron vessel* was built." This vessel is in use even now. Three years afterwards a steam-engine was, for the first time, fitted into a vessel built of iron—the *Aaron Manby*—constructed for Mr. Manby and Captain Napier, afterwards Admiral Sir Charles Napier. Gradually the suitableness of these vessels was becoming apparent, and from this time dates the establishment of some of the greatest ship-building yards, like those of the Lairds and Fairbairns. In 1834 the first-named firm built the *Garry Owen* for service between Limerick and Kilrush. Almost fortunately, she was driven on shore with a number of wooden vessels, all of which were wrecked or seriously damaged, while she got off with scarcely any damage, and the credit of iron vessels became improved. But another of the chief and more tenable objections to the extended use of iron vessels was the perturbation of the compass. This has been clearly shown to proceed almost entirely from the proximity of iron *not* forming a part of the *hull* of the ship, the magnetic influence of which is comparatively even all round. A funnel, tank, boilers, the machinery, the iron fastenings even of a deck-house, &c., may all have their influences. Still these influences are now regulated and understood, and iron ships are more commonly employed than those of wood, showing that it is not an objection which can be urged to-day. After the early steamers came by degrees iron sailing vessels, till at length we find iron applied to a grand steamer, magnificent then and first-class still, the *Great Britain*. "Experience by degrees successfully met almost every objection; and science was again triumphant over prejudice and ignorance. Iron had been made not merely to float, but to ride buoyantly over the crest of the wave amid the raging elements."

Then came the introduction of the screw-propeller, which, if we are to believe some authorities, is an early invention of the Chinese. There have been many claims to its invention in modern times. In May, 1804, Mr. J. Stevens, of the United States, put to sea with a steam-boat propelled with some form of screw. Trevethick, the engineer, in 1815, patented "a worm or screw revolving in a cylinder at the head, sides, or stern of a vessel;" and the following year, Robert Kinder applied for a patent for a shaft and screw almost of exactly the form now in use. The French claim it, and only a few years since erected at Boulogne a monument to Frédéric Sauvage, as its inventor. On the front is a bronze bas-relief showing a vessel with a screw-propeller. Sauvage's life was similar to those of many other inventors, in that he spent his days and fortune in perfecting inventions which brought him no profit. Having lost his own money, and got into great difficulties, he was thrown into a debtors' prison, and subsequently ended his days in a madhouse. Lindsay remarks properly that "the number of claimants to every important invention is remarkable. An impartial student will, however, probably come to the conclusion that the invention of the screw and its application was, like that of the steam-engine itself, the sole property of no one man." The time for its development and proper use had come, and many scientific students were inquiring concerning its value.

There can be little doubt that the first demonstration in our country of its value on a proper scale and in convincing form, was that made by Captain John Ericsson, a Swedish engineer resident in London. After a successful experiment with a model, he had a boat

built forty-five feet in length, and fitted with engine and two propellers. She was named the *Francis B. Ogden*. "The result of her first trial went far beyond his most sanguine expectations. No sooner were the engines put at full speed, than she shot ahead at the rate of more than ten miles an hour." Afterwards she towed a schooner of 140 tons burden at seven miles an hour. The next experiment was made in the presence of the Lords of the Admiralty, and they were minute in their inspection. Ericsson felt confident that they were convinced, and would soon order the construction of a war-vessel on the new principle. In this, however, he was disappointed, though he had given them a tolerably good proof of its value by towing their barge at the rate of ten miles an hour for a considerable distance. Scientific theorists reported against it, and said that a ship thus propelled would be unsteerable. Lindsay records how Admiral Beechey, one of the old school, in 1850, stated that "he did not believe that the navy of the future—the Royal Navy—ever could consist of steamers! Nor could he endure iron ships."

THE "ROBERT F. STOCKTON."

While Ericsson was thus employed, Mr. Thomas Pettit Smith, who, on the 31st May, 1836, had taken out a patent for a "sort of screw or 'worm,' made to revolve rapidly under water in a recess or open space formed in that part of the after-part of the vessel commonly called the dead rising or dead wood of the stern," was experimenting, and the following year exhibited it in practical form in a small vessel. It appeared to several gentlemen so satisfactory that a company was formed in July, 1839, to purchase the patent. It was now applied to a vessel called the *Archimedes*, the burden of which was 237 tons, and although her speed was somewhat less than Ericsson's vessel, the trial was undeniably satisfactory, more especially as it was obvious that her engine was really not large enough for a propeller of the size. In her next trials against the *Widgeon*, the fastest paddle-wheel steamer then running between Dover and Calais, the success of the screw might be regarded as an established fact. The *Archimedes* laboured under the disadvantage of having ten horse-power less steam, while her burden was seventy-five tons more; she had the advantage of carrying more sail. On the first three trials the *Widgeon* had a very slight advantage, in spite of her superior steam-power and smaller tonnage, while on the last two the

Archimedes made the trip in less time than it had ever previously been performed by any of the mail packets. Captain Chappell, R.N., afterwards took her clear round England and Scotland, calling at numerous ports. The Admiralty at length ordered the construction of a screw vessel, and the lines of the *Rattler* were laid down on the same model as the *Alecto*, a paddle-wheel steamer then building.

Another claimant as an inventor, who should be mentioned most honourably, is Mr. Woodcroft, some of whose experiments were being patented in 1826. They were not tried on a suitable scale till after the successes of Ericsson and Smith. Woodcroft's "varying pitch screw-propeller," patented in 1844, the title of which describes itself, is to-day "considered the best and most useful type."

In following the progress of the screw, as applicable to the propulsion of merchant vessels,* and its use in other countries, we must now recur to the period when Ericsson was making his experiments on the Thames. At that time an intelligent gentleman, Captain Robert F. Stockton, of the United States' Navy, was on a visit to London; being of an inquisitive turn of mind, like most of his countrymen, he watched with great interest the trials with the screw then in progress, and having obtained an introduction to Ericsson, he accompanied him on one of his experimental expeditions on the Thames. Unlike the Lords of the British Admiralty, who allowed eight years to elapse before they built their first screw-propeller, the *Rattler*, Captain Stockton was so impressed with the value and utility of the discovery, that, although he had only made a single trip in the *Francis B. Ogden*, and that merely from London Bridge to Greenwich, he there and then gave Ericsson a commission to build for him two boats for the United States, with steam machinery and propeller as proposed by him. Stockton, impressed with its practical utility for war purposes, was undismayed by the recorded opinions of scientific men, and formed his own judgment from what he himself witnessed. He, therefore, not only ordered the two iron boats on his own account, but at once brought the subject before the Government of the United States, and caused various plans and models to be made at his own expense, explaining the fitness of the new invention for ships of war. So sanguine was he, indeed, of the great importance of this new mode of propulsion, and so determined that his views should be carried out, that he encouraged Ericsson to believe that the Government of the United States would test his propeller on a large scale; Ericsson, relying upon these promises, abandoned his professional engagements in England, and took his departure for the United States. But it was not until a change in the Federal administration, two years afterwards, that Captain Stockton was able to obtain a favourable hearing. Orders were then given to make an experiment in the *Princeton*, which was successful. The propeller, as applied to this war vessel, was similar in construction to that of the *Francis B. Ogden*, as well in theory as in minute practical details. One of the boats, named after her owner, the *Robert F. Stockton*, was built by Messrs. Laird, of Birkenhead, and launched in 1838. She was 70 feet in length, 10 feet wide, and drew 6 feet 9 inches of water. Her cylinders were 16 inches diameter with 18 inches stroke, and her propellers 6 feet 4 inches

* The above account is derived from Lindsay.

in length. On her trial trip on the Thames, made in January of the following year, she accomplished a distance of nine miles in about half an hour with the tide, proving the speed through the water to be between eleven and twelve miles an hour. On her second trial, between Southwark and Waterloo Bridges, she took in tow four laden barges with upright sides and square ends, having a beam of fifteen feet each, and drawing four feet six inches of water. One of these was lashed on each side, the other two being towed astern, and though the weight of the whole must have been close upon 400 tons, and a considerable resistance

THE FIRST CUNARD STEAMER.

was offered by their forms, the steamer towed them at the rate of 5½ miles an hour in slack water, or in eleven minutes between the two bridges, a distance of one mile.

These experiments having been considered in every way satisfactory, the *Robert F. Stockton* left England for the United States in the beginning of April, 1839, under the command of Captain Cram of the American merchant service. Her crew consisted of four men and a boy; and having accomplished the voyage *under sail* in forty days, Captain Cram was presented with the freedom of the city of New York for his daring in crossing the Atlantic in so small a craft, constructed only for river navigation.

The first steamer to cross the Atlantic was the *Savannah*, of 300 tons, which arrived in Liverpool from Savannah, Georgia, in thirty-one days, her voyage having been made partly under sail. So to America belongs the credit of having shown the practicability

of employing steam power for the most difficult and dangerous voyages. The *Savannah's* horse-power was too small for her size, and although she arrived safely, the experiment was not regarded by men of science as particularly successful. Dr. Lardner in particular, and other scientists, expressed their belief that no vessel could carry coal enough to steam the whole distance, and their discussions greatly retarded the progress of Transatlantic steam navigation. The voyage of the *Savannah* was made in 1819; ten years elapsed before the Atlantic traffic was renewed, so far as steam was concerned, by the dispatch of an English-built steam-ship, the *Curaçoa*, which made several trips from Holland to the West Indies. In 1833 a steam-ship, named the *Royal William*, sailed from Quebec, and arrived safely at Gravesend. But it was not till 1838 that the practicability of profitably employing steam-ships on the Atlantic was demonstrated by the voyages of the *Sirius* and *Great Western*, the latter one of the finest vessels of the day. Their arrival at New York is thus described by one of the journals of that city:—

"At three o'clock p.m., on Sunday the 22nd of April, the *Sirius* first descried the land, and early on Monday morning, the 23rd, anchored in the North River immediately off the battery. The moment the intelligence was made known, hundreds and thousands rushed, early in the morning, to the battery. Nothing could exceed the excitement. The river was covered during the whole day with row-boats, skiffs, and yawls, carrying the wondering people out to get a close view of this extraordinary vessel. While people were yet wondering how the *Sirius* made out to cross the rude Atlantic, it was announced, about eleven a.m. on Monday, from the telegraph, that a huge steam-ship was in the offing. 'The *Great Western!* The *Great Western!*' was on everybody's tongue. About two o'clock p.m., the first curl of her ascending smoke fell on the eyes of the thousands of anxious spectators. A shout of enthusiasm rose in the air." The movements of a great steam-ship in and out of port are always watched with interest—why, even the arrival of the "husbands' boat" at Margate or Ramsgate is an event! One can, then, well imagine and understand the excitement caused in New York by the arrival of two fine vessels almost simultaneously from England. It meant, in some branches of commerce, a complete revolution. These first passages were made in seventeen and fifteen days respectively. Almost immediately after this, the great Cunard Company commenced operations, the Admiralty awarding them the mail contract. Then came the great contest for the maritime supremacy, commercially regarded, of the Atlantic Ocean, when American enterprise came into the field, and organised a formidable rival to the English company in the Collins Line. The history of this contest would fill a volume.

The national pride of the Americans had been touched by the commercial success of British steam-ships frequenting their ports, and they determined, vulgarly speaking, "to have a piece of the pie." American genius and enterprise had sent forth a fleet of steamers to trade on their coasts, lakes, and rivers, which a leading English authority considers "were marvels of naval architecture, unsurpassed in speed, and in the splendour of their equipment." Their clipper-sailing ships "were the finest the world had then produced, while their perfection in the art of ship-building had even reached so high a point that they constructed steamers to ascend rivers where

there was hardly depth of water for an Indian canoe; indeed, it was proverbially said, in honour of their skill in the art, that their vessels would traverse valleys if only moistened by the morning dews." Why should they not have a great ocean line? It was looked upon in Congress and by the country generally as almost a national question, and it resulted in a heavy mail subsidy to Mr. Collins and his colleagues. They immediately made arrangements for the construction of four large vessels. Later, the Government increased the subsidy by over one-third (from $19,250 per trip to $33,000) *but increased speed was required in return.* How much this may have had to do with the two terrible disasters about to be related will no doubt strike the reader. The Collins Line commenced its voyages in 1850.

"A voyage across the Atlantic," says Lindsay, "must ever be attended with greater peril than almost any other ocean service of similar length and duration; arising, as this does, from the boisterous character and uncertainty of the weather, from the icebergs which float in huge masses during spring along the northern line of passage, and from the many vessels of every kind to be met with either employed in the Newfoundland fisheries, or in the vast and daily-increasing intercourse between Europe and America.

"In such a navigation the utmost care requires to be constantly exercised, especially by steam-ships. Nevertheless, although the Collins Line of steamers performed this passage with a speed hitherto unequalled, they encountered no accidents worthy of notice during the first four years of their career; but terrible calamities befell them soon afterwards."

On the 21st of September, 1854, the *Arctic,* according to the usual course, left Liverpool for New York. She had on board 233 passengers, of whom 150 were first-class, together with a crew of 135 persons and a valuable cargo. At mid-day on the 27th of that month, when about sixty miles south-east of Cape Race, and during a dense fog, she came in contact with the French steamer *Vesta.* By this collision the *Vesta* seemed at first to be so seriously injured, that in their terror and confusion, her passengers, amounting to 147, and a crew of fifty men, conceived she was about to sink, and that their only chance of safety lay in their getting quickly into the *Arctic.* Impressed with this idea many of them rushed into the boats, of which, as too frequently happens, one sank immediately, and the other, containing thirteen persons, was swamped under the quarter of the ship, all on board of her perishing. When, however, the captain of the *Vesta* more carefully examined his injuries, he found that though the bows of his vessel were partially stove in, the foremost bulk-head had not started. He therefore at once lightened his ship by the head, strengthening the partition by every means in his power, and by great exertions, courage, forethought, and seamanship, brought his shattered vessel, without further loss, into the harbour of St. John's.

In the meantime a frightful catastrophe befell the *Arctic,* and was so little anticipated that the persons on board of her supposing that she had only sustained a slight injury by the collision, had launched a boat for the rescue of the passengers and crew of the *Vesta.* It was soon, however, discovered that their own ship had sustained fatal injuries, and the sea was rushing in so fast through three holes which had been pierced in the hull

below the water-line, that the engine fires would soon be extinguished. The *Arctic's* head was therefore immediately laid for Cape Race, the nearest point of land; but within four hours of the collision the water reached the furnaces, and soon afterwards she foundered. As it was blowing a strong gale at the time, some of the boats into which the passengers and crew rushed were destroyed in launching; others which got clear of the sinking ship were never again heard of, and only two, with thirty-one of the crew and fourteen passengers, reached Newfoundland. Among those who perished were the wife of Mr. Collins, and their son and daughter; but the captain, who remained on board to the last, and the first as well as the second and fourth officers, were saved. Seventy-two men and four females sought refuge on a raft, which the seamen, when they found the ship sinking, had hastily constructed; but one by one they were swept away—every wave as it washed over the raft claiming one or more victims as its prey; and at eight o'clock on the following morning *one* human being alone was left out of the seventy-six persons, who only twelve or fifteen hours before had hoped to save their lives on this temporary structure. The solitary occupant of this fragile raft must have had a brave heart and a strong nerve to have retained his place on it for a day and a half after all his companions had perished, for it was not until that time had elapsed that he was saved by a passing vessel. His tale of how he and they parted was of the most heart-rending description.*

As a large portion of the first-class passengers of the *Arctic* consisted of persons of wealth and extensive commercial relations in the United States, as well as in England and the colonies, and besides more than one member of her aristocracy, the loss of the *Arctic*, and the terrible incidents in connection with her fate, caused an unusual amount of grief and consternation on both sides of the Atlantic.

Within little more than twelve months from this time another great calamity befell the Collins Company, and the sad loss of their steamer *Pacific*—from the mystery in which it was shrouded, if not as lamentable as that of the *Arctic* (for the soul of man has never been harrowed with its details)—was equally deplorable. Although the ocean in this instance has left no record of its ravages, the stern fact announced in the brief words, "*she was never heard of*," tells itself the sad, sad tale that a great ship, with all her living inmates, in infancy, in manhood and old age, and it may be full of hope and joy, had been engulfed in the blue waters of the Atlantic—summoned, perhaps in a moment, to an eternity more mysterious than that which surrounded their melancholy fate.

The splendid but unfortunate ship left Liverpool on the 23rd of January, 1856, having on board twenty-five first-class passengers, twenty second-class passengers, and a crew of 141 persons, almost all of whom were Americans. She carried the mails and a valuable cargo, the insurances effected on her being 2,000,000 dollars. But no living soul ever returned to tell where or how she was lost, nor were any articles belonging to her ever found to afford a clue to her melancholy fate; it can only be supposed that she sprang an overflowing leak, or more probably struck suddenly when at full speed on an iceberg, and instantly foundered.

The Collins Line ceased to exist a few years after these serious disasters, but the

* See *Annual Register*, 1854, p. 162.

CUNARD PADDLE STEAM-SHIP "SCOTIA."

THE CUNARD SCREW STEAM-SHIP "BOTHNIA."

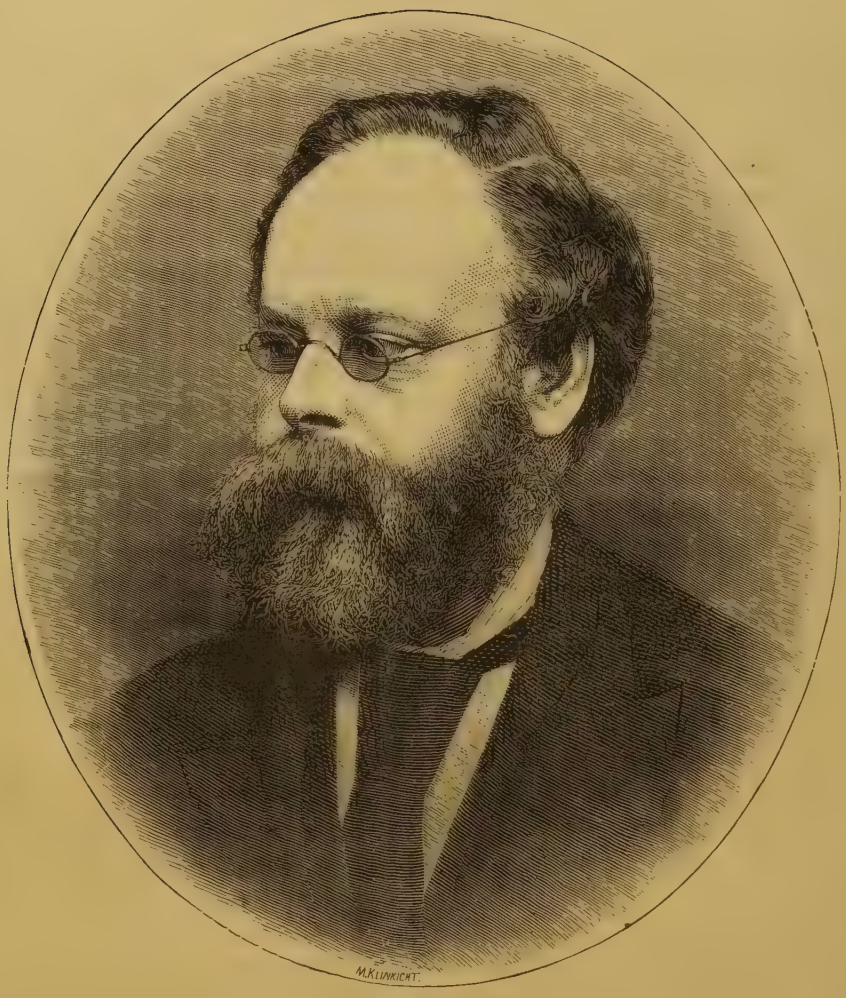
Cunard became more firmly established than ever, and entered on that career of prosperity which has been the most remarkable of any in the long list of steam-ship lines. Its fleet consisted of forty-nine vessels in 1875, running not merely on the Atlantic service, but to Mediterranean and other ports. A competent authority puts the money value of the ships at about seven millions sterling. In the ocean line the crews are engaged for a single voyage out and home. The company shipped and discharged during the year ending July 1st, 1872, 43,000 men, which means that they continuously employed about 8,600 persons on their ships. About 1,500 men find regular employment in loading and unloading the steam-ships, and from 500 to 1,500 more are engaged at the docks of the company in Liverpool in fitting and refitting these vessels. "Hence the company, although a private enterprise in the hands of only three families, is entitled to rank with the great railway and other public companies as an employer of labour."* The Cunard Company, in 1861, enrolled a regiment of Volunteer Artillery (the 11th Lancashire) 500 strong, composed entirely of their own *employés*, and they have always shown much public spirit in Liverpool in the promotion of schools, asylums, and other provident and charitable institutions for the seamen's benefit. During the Crimean war, and in 1861, when the friendly relations between Great Britain and America were put in jeopardy by the forcible arrest of Messrs. Mason and Slidell, when on board the Royal Mail steamer *Trent*, the resources of the company were put into requisition for the conveyance of troops and stores. Their two largest ships, the *Bothnia* and *Scythia*, each of 4,535 tons burden, have saloons where 300 persons can dine at one time, while their decks afford an unbroken promenade, for passengers, of 425 feet.

The wonderful exemption from shipwreck and casualties, which is the just pride of this company, is due to the admirable discipline and order enforced. Take the following description of life on the *Bothnia* as detailed in the columns of our leading journal:—"The *Bothnia* carries ten boats, which are capable of containing her full complement of people; and she has a crew of 150 officers and men, all told, divided into the three classes of seamen, engineers and firemen, and stewards. It has always been part of the Cunard Company's system that every man, whatever his duties on board the ship, should be a member of some particular boat's crew, and that the crew of each boat should be formed from all three of the classes which have been mentioned. . . . As soon as all are on board, each man is informed to which boat he is attached, and who is the commanding officer of that boat, and each boat's officer is expected to know every member of his boat's crew. In order to prevent mistakes, each man wears a metal badge, with a brooch-fastening, which bears the number of his boat," and so forth. Before the passengers are on board, there is an inspection, the crew being drawn up in two lines, each man being expected to answer to his name. The muster-roll having been called, orders are given to prepare for boat service; and the men break up into the necessary number of crews. After the order 'Boats out!' is given, the men fall to work with a will, and the ten boats, each containing a keg of water, oars, spars, sails, an axe, &c., are in three minutes properly launched into the water, the captain from his place of vantage on the bridge looking

* The *Times*, November 17th, 1875.

sharply after laziness or awkwardness. The same organisation of crews is applied to fire duty. Some have charge of the buckets; others fetch and join the hose, or take care of the jets; others are ready with wet blankets to throw over the flames; but the essential matter is that each man has his place and his duty. So for manning the pumps and other essential matters. These drills over, the inspecting party proceeds to make a complete tour of the vessel. The store-rooms are visited, and the steward cautioned never to use any other light than a closed and locked lamp. The supply of rockets and other signals is examined, the steering and signalling apparatus tried, and only after everything has been found in order is the word given for the ship to embark her passengers and proceed on her course. "If the smallest defect," says the *Times*, before quoted, "is discovered in any part of a ship, no question is raised whether it will bear one voyage or two voyages more, but the order, 'Out with it!' is given at once." The reign of order is as complete as on board a well-regulated man-of-war. On the many other great steam-ship lines more or less of the same inspection occurs, and on some, no doubt, the precautions taken are nearly as careful. The Cunard Line is generally admitted to be, however, pre-eminent in the care taken of life and property on board, the fact being that the company has never lost a ship on the Atlantic. The illustration on page 109 shows one of their finest ships, the *Scotia*.

From the Mersey alone there are ten distinct fleets sailing to America, including such magnificent steam-ships as those of the White Star and Inman Lines. In the former the luxurious saloons are placed amidships, the motion being less felt there. The Inman Line has made the quickest passages across the Atlantic on record, and has carried as many as 50,000 steerage passengers in one year. In 1856 and 1857 this line carried 85,000 passengers, of both classes, to and from the United States, or about one-third of all those crossing "the Great Ferry" for those years. The shortness of time to which the Inman steamers have reduced the passage across the Atlantic was conspicuously shown by the voyage of Prince Arthur in 1869, who attended service at Queenstown on the Sunday morning of his departure, and was landed at Halifax in time to attend morning service at that place on the Sunday following. Their ship, the *City of Berlin*, of 5,500 tons, is the largest vessel afloat except the *Great Eastern*, and has accommodation for 1,700 passengers. The White Star Line has two vessels of 5,004 tons each, the *Britannic* and *Germanic*. These few facts will indicate—although we may not be able to grasp them in their entirety—the immense growth of the ocean steam navigation in a period so short as that which has elapsed from the first steam-voyage across the Atlantic.



MR. PLIMSOLL.

CHAPTER VII.

The History of Ships and Shipping Interests (*continued*).

A Contrast—Floating Palaces and "Coffin-ships"—Mr. Plimsoll's Appeal—His Philanthropic Efforts—Use of Old Charts—Badly Constructed Ships—A Doomed Ship—Owner's Gains by her Loss—A Sensible Deserter—Overloading—The Widows and Fatherless—Other Risks of the Sailor's Life—Scurvy—Improper Cargoes—"Unclassed Vessels"—"Lloyd's," and its History.

Turning by way of that contrast which our subject so abundantly presents, let us pass from the consideration of well-regulated, well-found steam-ship lines, to a different class of vessels—those "coffin-ships" of which we heard so much a few years since. As we all know, the term has been lately used to signify unseaworthy ships of all kinds—such as that mentioned by Mr. Plimsoll, which was loaded at Newcastle with nearly twice her proper tonnage, and dispatched to the Baltic in mid-winter, *with her main-deck two feet two inches below the level of the water.* She foundered eighteen miles

from the coast. We are told of one man who had in six years lost twelve rotten ships, and 105 men; and of the *Elizabeth*, a vessel so weak and leaky, that is was necessary to pump her every hour when floating empty in harbour, but which was sent to sea with 180 tons of coal to founder with three out of five hands. It was certainly time for legislation when the statement could be made truly that a ship which had been refused a class by Lloyd's Committee, and had been declared utterly unfit to go to sea by Lloyd's surveyor, was dispatched across the Atlantic, or rather to the bottom of the Atlantic, there to lie with one crew, while another was safe in an English prison for refusing to proceed in her.

In 1870, Mr. Samuel Plimsoll first commenced, so far as Parliament is concerned, those benevolent efforts for the amelioration of the sailor's hard life, which must always place him among the highest ranks of philanthropists. Moved evidently by the purest motives, there are one or two mistakes to be recorded against him, but they were of the head, not of the heart. Government was at the time endeavouring, as far as can be seen, to accomplish nearly the same ends, but was hampered by the pressure of Parliamentary business. Lindsay, who was somewhat opposed to the views expressed by Plimsoll, and it is rather unfortunate that he was so, having been so long a ship-owner himself, yet endorses the remarks of a friend—a Vice-Admiral of Her Majesty's service—who wrote to him: "Should there not be some more stringent provisions with respect to the inspection of sailing vessels? It is an old proverb, 'Who ever saw a dead donkey?' But who ever saw an old sailing-ship broken up? I am inclined to think that it is more to the interest of small owners to let an old tub go on shore than to bring her safe into port. This works two evils:—1, the danger to human life; 2, the greater rate of insurance on honest owners to make up an average for the dishonest." The evil had become a most terrible one, and, in spite of some little reform, it is to be feared, goes on to-day with only partially-abated vigour.

"Imperfect charts," says Lindsay, "were often made to cover, as I fear may be the case to some extent now, incompetency, drunkenness, or carelessness. Indeed, about that period, they frequently served as excuses when other objects were in view. I remember a ludicrous example of this. When a boy at school at Ayr, I used to accompany my uncle to 'the meeting of owners' of the brig *Eclipse*, in which he held some eight or ten 64th shares. Every spring the owners met on board to discuss matters relating to her affairs, and to dispose of what I recollect best, a round of salt beef, sea-biscuits, and rum and water. The *Eclipse* had hitherto been invariably employed during the summer season in the conveyance of timber from some one or other of the ports of New Brunswick for Ayr. On one occasion, a tempting freight had been offered for her to proceed to Quebec, and the owners in conclave assembled, had all but unanimously decided to send her to that port. While, however, the discussion was going on, her skipper, Garratt, or, 'old Garratty,' as he was called, seemed very uneasy, and gulping down an extra tumbler of rum and water, he at last said, 'Weel, gentlemen, should you send the *Eclipse* to Quebec, I'll not be answerable for her safety.' 'How so?' asked one of the owners. 'Ah,' said Garratty, drawing his breath, '*the charts are a'wrang in the St. Lawrence.* Ye'll ne'er see the *Eclipse* again gin ye send her to Quebec.' The skipper carried the day.

"It is much to be regretted that ship-owners, when they leave their captains to provide their own charts (instead of supplying them) do not stipulate that they are to be the best and the *latest*. I remember a ship and cargo (numerous other instances could be produced), valued at £70,000, lost near Boulogne from the master mistaking the two lights at Etaples for the South Foreland lights; and this, as appeared from the Board of Trade inquiry, because his Channel chart, which was thirty years old, had not the Etaples lights marked on it." The terrible wreck of the *Deutschland* steam-ship, on the 30th December, 1875, was caused, with hardly the shadow of a doubt, from the use of an old chart.

Mr. Plimsoll in a most remarkable and vigorous book,* published in 1873, puts the matter of "coffin-ships" forcibly before his readers. He says, "No means are neglected by Parliament to provide for the safety of life ashore; and yet, as I said before, you may build a ship in any way you please, you may use timber utterly unfit, you may use it in quantity utterly inadequate, but no one has any authority to interfere with you.

"You may even buy an old ship 250 tons burden by auction for £50, sold to be broken up, because extremely old and rotten; she had had a narrow escape on her last voyage, and had suffered so severely that she was quite unfit to go to sea again without more being spent in repairs upon her than she would be worth when done. Instead of breaking up this old ship, bought for 4s. per ton (the cost of a new ship being from £10 to £14 per ton), as was expected, you may give her a coat of paint—she is too rotten for caulking—and to the dismay of her late owners, you may prepare to send her to sea. You may be remonstrated with, in the strongest terms, against doing so, even to being told that if you persist, and the men are lost, you deserve to be tried for manslaughter.

"You may engage men in another port, and they, having signed articles without seeing the ship, you may send them to the port where the ship lies in the custody of a mariner. You may then (after re-christening the ship, which ought not to be allowed), if you have managed to insure her heavily, load her until the main deck is within two feet of the water amidships, and send her to sea. Nobody can prevent you. Nay, more, if the men become riotous, you may arrest them without a magistrate's warrant, and take them to prison, and the magistrates, who have no choice (they have not to make, but only to administer the law), will commit them to prison for twelve weeks with hard labour, or, better still for you, you may send for a policeman on board to overawe the mutineers, and induce them to do their duty! And then, if the ship is lost with all hands, you will gain a large sum of money and you will be asked no questions, as no inquiry will ever be held over those unfortunate men, unless (which has only happened once, I think) some member of the House asks for inquiry.

"The river policeman who in one case threatened a refractory crew with imprisonment, and urged them to do their duty (!) told me afterwards (when they were all drowned) that he and his colleagues at the river-side station had spoken to each other about the ship being dreadfully overloaded as she passed their station on the river, before he went

* "Our Seamen: an Appeal."

on board to urge duty (!) and that he then, when he saw me, 'rued badly that he had not locked 'em up without talk, as then they wouldn't have been drowned.'"

Here Mr. Plimsoll indicates another risk for the poor sailor: "There is, I fear, great reason to think that ships are occasionally lost from the very imperfect manner in which some of them are built; in some cases, I think you will see that something worse ought to be said. I do not say the cases are many; still, they exist, and we have done nothing to prevent it. The first time I introduced a bill to prevent overloading, I alluded (mentioning no names) to the case of one ship-owner who, trading to the West Indies for sugar (a good voyage, deep water, and plenty of sea room all the way) had, out of a fleet of twenty-one vessels, lost no less than ten of them in less than three years.

"After I had concluded my speech in moving the second reading, a member accosted me in the lobby and said: 'Mr. Plimsoll, you were mistaken in that statement of yours.' 'What statement?' I answered. 'Oh, that when you said a ship-owner had lost ten ships in less than three years from overloading.' 'I mentioned no names,' I said. 'No, but I know who you meant. He is one of my constituents, and a very respectable man indeed. It is not his fault; it is the fault of the man who built his ships, for one of them was surveyed in London and was found to be put together with devils. He knew nothing about it, I assure you.' 'Devils?' I said. 'Yes.' 'I don't know what you mean.' 'Oh, devils are sham bolts, you know; that is, when they ought to be copper, the head and about an inch of the shaft are copper, and the rest is iron.'

"I have since found there are other and different sham bolts used, where merely a bolthead (without any shaft at all) is driven in, and only as many real bolts used as will keep the timbers in their places. Now these bolts are used to go through the outside planking, the upright timber, not the inner planking (ceiling) of a ship, and through the vertical or drooping part of a piece of iron called a knee, on the upper part of which the deck-beams rest, and to which the deck-beams are also bolted from above. These bolts, therefore, are from thirteen to eighteen inches in length."

The following examples will speak for themselves. Mr. Plimsoll says:—"On the occasion of one of my visits to a port in the north, I was met by a gentleman who knew what my errand there was likely to be, and he said, 'Oh, Mr. Plimsoll, you should have been here yesterday: a vessel went down the river so deeply loaded, that everybody who saw her expects to hear of her being lost. She was loaded under the personal directions of her owner, and the captain himself said to me, "Isn't it shameful to send men with families to sea in a vessel loaded like that?" Poor fellow, it is much if ever he reaches port.' Half a dozen others confirmed this statement. The captain 'was greatly depressed in spirits,' and a friend—not the owner, mark you!—gave him some rockets—'in case of the worst.' Two men averred that they would not go if the owner gave them the ship.

"She was sent. The men were some of them threatened, and one at least had a promise of 10s. extra per month if he would go. As she went away, the police-boat left her; the police had been on board to overawe the men with going. As the police-boat left her side, two of the men, deciding that they would rather be taken to prison,

hailed the police, and begged to be taken by them. The police said, 'they could not interfere,' and the ship sailed. My friend was in great anxiety, and told me that if the wind came on to blow, the *ship could not live.*

"It did blow a good half-gale all the day after Sunday—the ship sailed on Friday. I was looking seaward from the promontory on which the ruins of T—— Castle stand, with a heavy heart; the wind was not above force 7—nothing to hurt a well-found

MR. PLIMSOLL SPEAKING IN THE HOUSE OF COMMONS.

and properly-loaded vessel: I had often been out in much worse weather; but then this vessel was not properly loaded (and her owner stood to gain over £2,000 clear if she went down, by over insurance), and I knew that there were many others almost as unfit as she was to encounter rough weather—ships so rotten that if they struck they would go to pieces at once; ships so overloaded that every sea would make a clean sweep over her, sending tons and tons of water into her hold every time, until the end came.

"On Monday we heard of a ship in distress having been seen, rockets had been sent up by her; it was feared she was lost. On Tuesday the nameboard of a boat was picked up, and this was all that ever we heard of her."

Some cases seemed to be looked on as matters of course, and a gentleman as he saw his wife reading the newspaper, said to her, "Look out, for the —— in a day or two;

I saw her go out of the river. She is sure to be lost." She was lost, and nearly twenty men returned home never more.

Mr. Plimsoll tells another story of two gentlemen, who told him one day that they saw a vessel leaving dock; she was so deep that, having a list upon her, the scuppers on the bow side were half in the water and half out. (A "list" means that she was so loaded as to have one side rather deeper down than the other; the "scuppers" are the holes in the bulwarks that let the water out that comes on deck from the rain, the washing, or the seas breaking over her.) They heard a slight commotion on board, and a voice said to the captain: "Larry's not on board, sir." He had run for it. Nothing could be done, for lack of time, to seek him, so they sailed without him. And these gentlemen heard the crew say, as they slowly moved away from the dockyard: "Then Larry's the only man of us 'll be alive in a week." That vessel was lost.

Another large ship was sailing on a long voyage, from a port in Wales, with a cargo of coal. A gentleman called a friend's attention to her state. She was a good ship, but terribly deep in the water. He said, "Now, is it possible that vessel *can* reach her destination unless the sea is as smooth as a mill-pond the whole way?" The sea evidently was not as smooth as a mill-pond, for that ship was never heard of again, and twenty-eight of our poor, hard-working, brave fellow-subjects never more returned to gladden their wives and play with their children.

Mr. Plimsoll saw a large ship put to sea one day. She was so deep that a friend who was standing by said to him as she went: "She is nothing but a coffin for the poor fellows on board of her." He watched and watched, almost fascinated by the deadly peril of the crew, and he did not watch for nothing. Before he left his look-out to go home, he saw her go down.

Even more touching are the records of some visits made by him to the sufferers left behind to mourn the fate of their husbands, drowned in leaky ships which should never have left port.

"In this house, No. 9, L——ll Street, lives Mrs. A——r R——e. Look at her—she is not more than two or three and twenty, and those little ones are hers. She has a mangle, you see. It was subscribed for her by her poor neighbours: the poor are very kind to each other. That poor little fellow has hurt his foot, and looks wonderingly at the face of his young mother. She had a loving husband but very lately, but the owner of the ship on which he served, the *S——n*, was a very needy man, who insured her for £3,000 more than she had cost him. So if she sank he would gain all this. Well, one voyage she was loaded *under the owner's personal superintendence;* she was loaded so deeply that the dockmaster pointed her out to a friend as she left the dock, and said emphatically, 'That ship will never reach her destination.' She never did, for she was lost with all hands—twenty men and boys. A—— R—— complained to him before he sailed that she was 'so deep loaded.' She tried to get to the sands to see the ship off with Mrs. J——r, whose husband was on board. They never saw their husbands again.

"In this most evil-smelling room, E—— Q—— C—— Street, you may see in the corner two poor women in one bed, stricken with fever (one died two days after I saw them), mother and daughter. The husband of the daughter, who maintained them both, had been

lost at sea a little while before, in a ship so loaded that when Mr. B——l, a Custom House officer who had to go on board for some reason while she was lying in the river, was told, 'She's yonder; you can easily find her, she is nearly over t'head in the water,' Mr. B——l told me, 'I asked no questions, but stepped on board; this description was quite sufficient.'

"Mrs. R——s, H——n Place, told me her young brother was an orphan with herself. She said her sister brought him up till she was married. Then her husband was kind to him, and apprenticed him to the sea. He had passed as second mate in a sailing ship, but (he was a fine young fellow—I have his portrait) he was ambitious to 'pass in steam' also, and engaged to serve in the *S*—— ship, leaking badly, but was assured on signing that she was to be repaired before loading. The ship was not repaired, and was loaded, as he told his sister-mother, 'like a sand-barge.' Was urged by his sister and her husband not to go. His sister again urged him as he passed her door in the morning. He promised he would not, and went to the ship to get the wages due to him. Was refused payment unless he went, was over-persuaded and threatened, and called a coward, which greatly excited him. He went, and two days afterwards the ship went down. Her husband and Mrs. R——s also told me that he and his wife 'had a bit crack,' and decided to do all they could to 'persuade Johnnie not to go.' The young man was about twenty-two.

"Mr. J—— H——l told me that the captain was his friend, and the captain was very down-hearted about the way in which she was loaded (mind, she was loaded under the owner's personal supervision). The captain asked him (Mr. A——) to see his wife off by train after the ship had sailed. She, poor soul, had travelled to that port to see him off. The captain said to him, 'I doubt I'll never see her more!' and burst out crying. Poor fellow, he never did see her more.

"Now come with me to 36, C——, and see Mrs. J——e R——e. She is a young woman of superior intelligence, and has a trustable face—very. She may be about seven-and-twenty. She lost her husband in the same ship. He was thirty years of age, and, to use her own words, 'such a happy creature; so full of jokes.' He was engaged as second engineer, at £4 10s. and board. 'After his ship was loaded he was a changed man; he got his tea without saying a word, and then sat looking into the fire in a deep study, like. I asked him what ailed him, and he said, more to himself than to me, "She's such a beast!" I thought he meant the men's place was dirty, as he had complained before that there was no place to wash. He liked to be clean, my husband, and always had a good wash when he came home from the workshop, when he worked ashore. So I said, "Will you let me come on board to clean it out for you?" And he said, still looking at the fire, "It ain't that." Well, he hadn't signed, only agreed, so I said, "Don't sign, Jim," and he said he wouldn't, and went and told the engineer he shouldn't go. The engineer "spoke so kindly to him," and offered him 10s. a month more. He had had no work for a long time, and the money was tempting,' she said, 'and so he signed. When he told me I said, "You won't go, Jim, will you?" He said, "Why, Minnie, they will put me in gaol if I don't go." I said, "Never mind, you can come home after that." "But," said he, "they called me a coward, and you would not like to hear me called that."'

"The poor woman was crying very bitterly, so I said gently, 'I hope you won't think I am asking all these questions from idle curiosity;' and I shall never forget her quick disclaimer, for she saw that I was troubled with her: 'Oh no, sir; I am glad to answer you, for so many homes might be kept from being desolate if it was only looked into.'

"I ascertained that she is 'getting a bit winning for a livelihood,' as my informant phrased it, by sewing for a ready-made clothes-shopkeeper. She was in a small garret with a sloping roof and the most modest fireplace I ever saw; just three bits of iron laid from side to side of an opening in the brickwork, and two more up the front; no chimney-piece, or jambs, or stone across the top, but just the bricks laid nearer and nearer until the courses united. So I don't fancy she could be earning much. But with the very least money value in the place, it was as beautifully clean as I ever saw a room in my life.

"I also saw a poor woman, who had lost her son aged twenty-two. She too cried bitterly, as she spoke with *such* love and pride of her son, and of the grief of his father, who was sixty years of age. Her son was taken on as a stoker, and worked on the ship some days before she was ready for sea. He did not want to go when he saw how she was loaded. She looked like a floating wreck, but they refused to pay him the money he had earned unless he went, and he too was lost with the others.

"Just one more specimen of the good, true, and brave men we sacrifice by our most cruel and manslaughtering neglect. This time I went and called upon an old man I knew, and, after apologising for intruding upon his grief, I asked him to tell me if he had any objection to tell me if his son had had any misgiving about the ship before he went. He said, 'Yes, I went to see the ship myself, and was horrified to see the way in which she was loaded. I tried all I could to persuade him not to go, but he'd been doing nothing for a long time, and he didn't like being a burden on me. He'd a fine sperret, he had, my son,' said the poor old man.

"Here a young woman I had not observed (she was in a corner with her face to the wall) broke out into loud sobs and said, 'He was the best of us all, sir—the best of the whole family. He was as fair as a flower, and vah-y canny-looking.'"

But it is not merely rotten hulks which may become coffin-ships: many superior vessels are woefully deficient in accommodation for the sailor's comfort. He may, and often does, wade to his bunk through water, and the forecastle is too often a miserable hole, full of dirt and filth, where the men are packed like herrings. The food provided is principally "salt horse" and "hard bread," *i.e.*, sailor's biscuit of the most inferior description; and when scurvy ensues, as a natural consequence of exposure to damp and cold, with poor living superadded, the very lime-juice, which is nearly worthless if not pure, is found to be a miserable imitation or grossly adulterated with citric acid, which, strange as it may appear, has no anti-scorbutic properties. In the Russian and French mercantile marines there is little or no scurvy, in consequence of the pretty general use of common sour wine, which in some degree makes up for the lack of fresh vegetables. And in French mercantile ships the sailor may at any time demand the same rations as

those served out in the navy of the Republic. Owing to the carefully prepared dietary of our Royal Navy, scurvy has entirely disappeared, except in extreme cases of exposure and lack of precaution, as in the late Arctic Expedition.*

"In the West India Docks, which contain vessels trading to the West Indies, I observed a very different class of ships. Some are large and well supplied with provisions, but the majority are small, with wretched accommodation, badly manned, provisions indifferent in quality and deficient in quantity. Even in the larger vessels there is not that care taken of the men, and that amount of attention paid to their quarters and to the nature of their provisions, as in the ships belonging to the owners engaged in the East Indian and China trade. Captain Henry Toynbee strongly advocates the better ventilation and comfort of the forecastles, which he thinks should be under the control of Government. He has himself seen forecastles and seamen's chests in first-class ships black from the gas which rises from the cargo, and which smells like sewage, which is especially the case in sugar ships. Captain Toynbee informed me a day or two since that he had actually seen a place containing two packs of foxhounds and three horses, which received half its ventilation by a hatch which opened into the sailors' forecastle! . . . .

"In the Commercial Docks are to be seen both English and foreign ships, varying in size and class, most of which are in the timber trade, and have arrived from Norway, Sweden, or Memel, or the Baltic. The number of patients taken from ships in these docks to the *Dreadnought* hospital ship usually exceeds that from any other dock; but the cases are those not of scurvy, but consumption, bronchitis, and other chest diseases, which occur not so frequently in English sailors as in Norwegians, Swedes, and Russians—a fact due more, I think, to national predispositions than to hygienic conditions. In ships belonging to northern countries the provisions are abundant and good, the men's quarters are roomy, and there is nearly always a house upon deck in which there is a fair amount of space and good ventilation. The hygienic condition of the men on board Swedish and Norwegian ships is far superior to that of the ships of our own country; the chief fault is the extremely dirty and lazy habit of the men themselves, who allow filth of all kinds to accumulate in the deck-house and galley, without taking the slightest trouble to remove it. In English ships belonging to owners in the timber trade the state of things is disgraceful; a house on deck is an exception, and the men live and sleep in a small, close, ill-ventilated hole called a forecastle. The quality of provisions varies in different ships, some owners being more liberal than others; most of the men, however, live upon salt meat and biscuit, and sometimes a little salt fish. Timber in itself is considered a healthy cargo, but the ship is in most cases so overladen that the forecastle is very much reduced in size—too much so, considering the number of men that form the crew; these have either to remain on deck exposed to wet and cold, or have to breathe the foul atmosphere of a small forecastle, in which are stowed rusty chains, wet ropes, and all kinds of animal decaying matter. . . . .

The vessels used for the coal trade are now principally screw steamers, though there are

* An excess of that very aliment, the absence of which produces scurvy, will also induce disease. Thus, the negroes of the West Indies live too exclusively on vegetables, and disease follows, the remedy for which is usually *red herrings*—herrings salted and smoked till they are as red as copper.

still many of the old class, generally found lying between Blackwall and Woolwich. Our authority describes them as follows:—They "are of small size (varying from 150 to 600 tons), and are built as sloops, schooners, or brigs. The majority are brigs; a visit to two or three presents a view of a state of things which is common to all. A collier brig is generally worked by a captain and a mate, who live in a small dirty cabin, and by four men and a boy, who live and sleep in the most miserable of forecastles. This forecastle is very small, and so low that no person of ordinary stature can stand upright in it. It is dark, and the only approach is by a very small hatchway. It generally contains a quantity of old ropes, some rusty chains, a large tub of grease, and some damp canvas. These things, together with three or four dirty hammocks, take up the whole space, and it is only from sickness and the most urgent necessity that the sailor remains there for any length of time. So old and ill-constructed are some of these colliers, that in rough weather the forecastle is deluged with water. This condition of things is made much worse by the negligence of the sailor himself, for it seems to be a rule that the cook, instead of throwing over the side of the ship the refuse of material used for food, as dirty water, potato parings, &c., deposits these with great care in some corner of the forecastle. No attention is paid by the captain to the sanitary state of the ship; during the voyage, which is often a rough one, he is engaged in working the vessel, and while she is in harbour he is on shore waiting upon the owners of the vessel, or transacting their business in the Coal Exchange. I was informed the other day by a friend, who was engaged during the recent cholera epidemic as a sanitary inspector, that a patient afflicted with cholera was taken to the Belleisle in the month of September, who had been lying in his hammock for two days prostrate, and with much vomiting and purging, and during this time the captain, although on board, was not aware of the man's absence from deck. The provisions supplied in this class of ships vary both in quality and quantity; the supply, though, is very deficient, and there is an almost universal complaint among the men and boys that they have not sufficient to eat. Although coasting voyages last not longer than three or four days, and the ship is very seldom far away from land, the men scarcely ever get fresh meat; the supply always consists of salt beef—the coarsest parts of the animal. To this I may add that the biscuits are of the worst description, very hard, and are masticated with the greatest difficulty. The quality of provisions depends entirely upon the liberality of the captain, who not unfrequently has a share in the ship, and whose interest is consequently concerned in keeping down all expenses; the comfort of the men seems to be made subservient to pecuniary advantages."

And now—for a change—to good owners. There are many, and the present writer believes fully that the average ship-owner not merely wishes to preserve his ship, but all on board—crew, passengers, and cargo. The proprietor of a grand vessel feels, as he should, that her loss is a very great deal more than his loss. Dr. Stone, some years ago made an inspection of the docks, and his remarks, published in our leading journal,* deserve to be recorded. He says:—

"From conversations I had with many of the officers and crews engaged in Green's, Wigram's, Smith's, the Black Ball, and other services, and from what I saw, I judged

* The *Times*, January 14th, 1867.

that the provisions are good and ample, and I was informed that scurvy is seldom met with in the vessels belonging to these owners, owing to the fact of the masters not being content with simply ordering the crew to take a certain quantity of lime-juice every day during the ship's voyage, but satisfying themselves by personal inspection that the juice is actually drank. Outside the dock gates, and off Plaistow Wharf, may occasionally be seen American vessels which have arrived with petroleum. An inspection confirmed the opinion I have always entertained regarding the superior accommodation met with in the vessels of the United States; they are large, well manned, and supplied with good provisions. The berths and sleeping quarters are better even than those in large East Indiamen; every ship has a raised house on deck, spacious, well ventilated, and clean, which, being furnished with a stove, the men are thereby enabled in wet weather to dry their clothes, which is of course a great preservation of their health. The general condition of the men is far better than that of the sailor of any other nation. Although the cruel treatment exercised by the officers of American ships is proverbial, there is seldom any difficulty in obtaining a good crew. The masters in the commercial marine of America pride themselves upon the general appearance of their crews, and they say that it is the best economy to give them good and abundant food, and to pay rigid attention to their sleeping quarters."

Sometimes it is the cargo itself which is a fatal cause of disease or death. Ships carrying large quantities of minerals, sulphur, petroleum, &c., sometimes smell intolerably, but are not considered unhealthy places of residence. But how of guano and other manure ships? In one of Dr. Stone's letters to the *Times*, published in 1867, he says :—"The most objectionable and unhealthy cargoes brought into the Thames are those consisting of the different kinds of manure. A large bone trade is carried on in the port of London; barges are constantly passing up and down the Pool laden with bones collected from bone-dealers and the slaughter-houses of London. Many of the bones are not dry, but are covered with decomposing flesh. The smell is very bad, and is not limited to the immediate neighbourhood of the barge itself, but may be carried for a long distance. These bone barges discharge their cargoes into some small coasting ship. . . . The sailors and bargemen engaged in work of this kind suffer very much: they are nauseated by the offensive smell; their appetites fail entirely; they consume large quantities of spirit; and, as a consequence, are invariably attacked by diarrhœa, accompanied with vomiting. In the summer time it is a matter of surprise how anyone can remain, for a short time even, in the neighbourhood of the vessel; a thick offensive steam is constantly rising from the bones, and the decks and rigging are covered with large blue flies. When the vessel (generally a small, very old, and ill-manned schooner) puts to sea, the hatchways are kept open, so as to give free egress to the gaseous products of decomposition and to prevent the ship from taking fire."

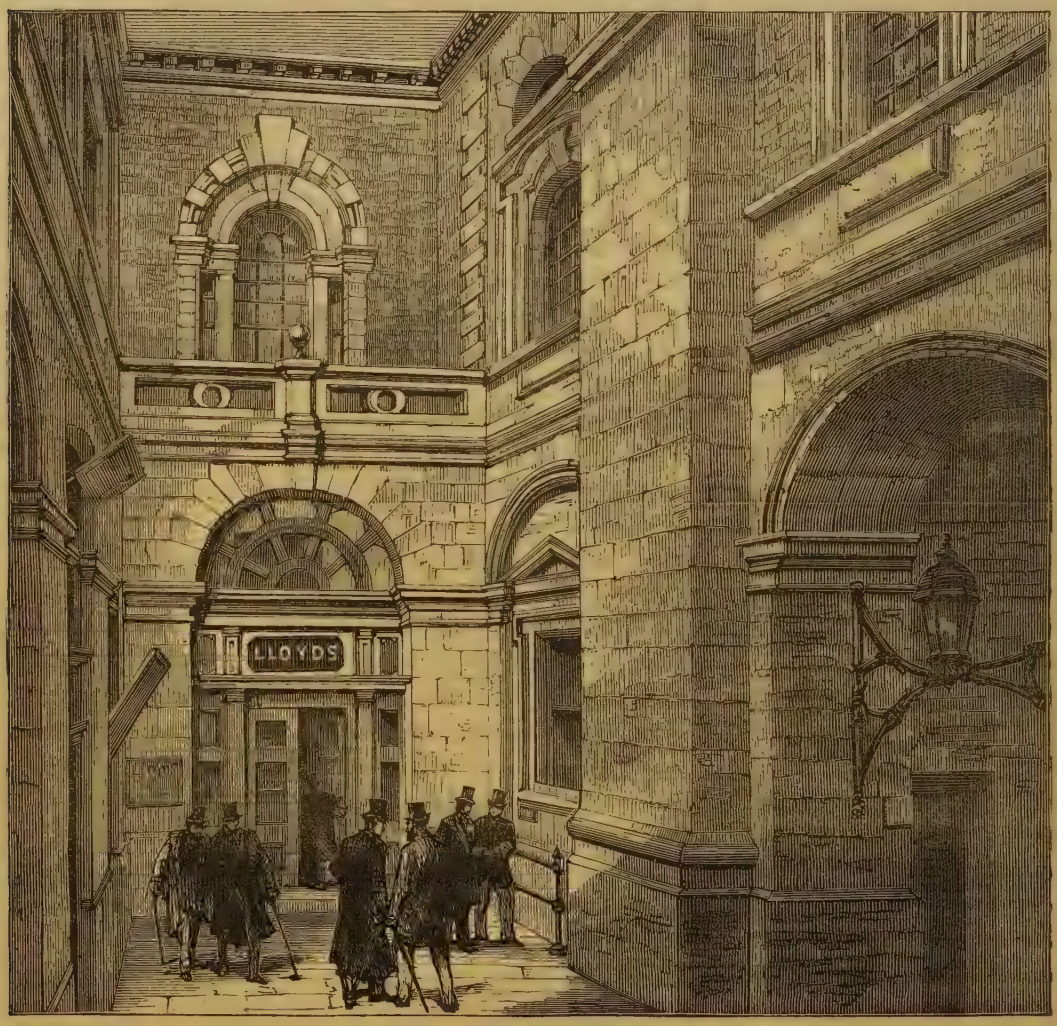
Many have been the instances of ships' decks being blown up by the gas from coal becoming ignited, and loss of life has been caused thereby. Gunpowder may, under certain conditions, become a most dangerous cargo. Take the case of the *Great Queensland*, which was blown up entirely, leaving no survivors to tell the tale. The cause is not far to seek when we learn that two tons of impure wood powder, sufficient of itself to burst the ship

to pieces, and from its condition likely to explode, were stored in the same compartment with thirty tons of ordinary black gunpowder.

Compulsory survey and no overloading were Mr. Plimsoll's main remedies for the prevention of the terrible loss of life in the mercantile marine. He cites two cases of great firms—the first engaged in the coal carrying, and the second in the guano trade—who do not permit overloading, and the first, in fifteen years had not, out of a large fleet of steamers, lost a single vessel, although they made from fifty to seventy double trips per annum. And yet the voyage from the Thames to the Tyne is more dangerous than an over-sea voyage. There are a whole crowd of dangerous shoals off the Essex coast alone, to be avoided or steered between, as the case may be, as soon as the ship leaves the Thames, followed by equal dangers on the Suffolk and Norfolk coasts. The latter sands are all under water even when the tide is at ebb, but there is not water enough on them to float a ship; hence the losses when ill-found, overloaded, and undermanned vessels get on them. Further north there are others, and then come the dangerous rocky coasts of Yorkshire and Durham. The second case deserves particular mention. About the year 1860, the firm of Anthony Gibbs and Co., of London, took a contract from the Peruvian Government to charter and load ships from the Chincha Islands with guano, and as many as three or four hundred ships left those islands annually for different parts of the world. At first they were allowed to load and proceed to sea without inspection or surveying, and were permitted to load as deeply as the masters thought fit. What was the result? Accidents and losses were reported every few days, and many of their ships foundered at sea, some with all hands on board. When the head of the house at Lima, Peru, introduced proper surveying before loading, to discover what repairs were needed, &c., allowing no overloading, and not permitting the ships to go to sea without full inspection of her pumps and gear, a sudden and wonderful change took place, and for years after not one of these ships foundered at sea.

We often hear and read of "unclassed" ships; does the reader understand the term? Nearly all new ships are fit to take valuable merchandise—silks, tea, provisions, cloth, or what not; and if "tight," *i.e.*, not leaky, would be classed A 1 by Lloyd's Committee. The letter refers to the ship proper; the numeral to its equipment, rigging, boats, cables, anchors, &c. The term or period for which she is classed varies with the quality and kind of timber employed, and the quality of the workmanship is also taken into account. A ship built mainly of hemlock, yellow pine, beech, or fir, will generally be classed A 1 for four or five years; of elm or ash five to seven years; and so on through various grades, until, if built of English oak or teak, she may be rated nine to twelve years. All are subject to the "half-time" survey of a strict character; thus a ship classed A 1 for eight years is examined by Lloyd's surveyors at the end of four years. "She may again, at the request of the owner, be examined for continuation, *i.e.*, to be continued A 1 for a further term; usually two-thirds of that originally granted. She may again and again be re-examined for continuation, or, if she have meantime gone into a lower class, be examined for restoration to the character A, but each of these surveys is increased in thoroughness and stringency as the age of the ship increases. When from age she ceases to be entitled to the character A in the opinion of Lloyd's surveyor, but is still tight enough and strong enough to carry valuable merchandise to any part of the world, she is classed

A red, usually for a term of half or two-thirds the original term granted her in the first character. . . . When from increasing age she is no longer fit to carry valuable goods for long voyages, she falls back into class black, diphthong Æ; while in this class she is deemed fit to carry the same class of goods, but only on short voyages (not



EXTERIOR OF LLOYD'S.

beyond Europe). And when after survey and re-survey at intervals, as before, she is no longer fit to carry valuable goods at all, she falls into class E, and is deemed fit only to carry goods which sea-water won't hurt, as metallic ores, coal, coke, &c." And so it goes on till she is classed 1; and when she is run through her terms here she is said to have run out of her classes: to be, in fact, an "unclassed ship." The lettering is slightly varied for iron ships. But it must be remembered that all this submitting to survey is entirely optional, and that a newly-built ship may be "unclassed" also.

In the former case—a ship which has run out of all its classes—the vessel is usually fit for nothing more than a river trip, and ought really to be broken up. It is then that the disreputable shipowner steps in and purchases her. Happy is it for its poor crew if she does not prove their coffin!

It may be asked, as Lloyd's will now have nothing to do with such a rotten tub, How does the owner get anyone to insure it? It is generally done by mutual insurance clubs formed among these very owners, though not exclusively. Plimsoll says: "It almost

INTERIOR OF LLOYD'S.

seems as if there was a race who should lose his ships first on the formation of a new club, so great are the sums the members are called upon to pay as premium;" and such clubs are constantly failing.

To be classed A 1 in anything is good, and, as applied to a ship at Lloyd's, means, as we all know, that the vessel is first-class in every particular. But what is Lloyd's? Many readers would find it difficult to give a clear answer to this query. The secretary of that institution told M. Esquiros, when that distinguished writer was visiting England, that he received many business letters addressed to "Mr. Lloyd," and we all know there was long, in fact, a celebrated Lloyd's Coffee-house in the City, where the merchants interested in maritime matters used to congregate. A poem, "The Wealthy Shopkeeper, or Charitable Christian," published in 1700, alludes to the establishment, and the writer adds, as an addendum, that the London merchant at that time never missed "resorting

to Lloyd's to read his letters and attend sales." Later, Steele and Addison both spoke of it in the same light. "The veritable, personal Lloyd," says Esquiros, "as we see, has made a great deal more noise in the world after his death than he ever did during his lifetime." The name of the coffee-house keeper has become inseparably connected with the greatest maritime institution of the world.

The original Lloyd was a wonderfully good example of a pushing London citizen. Little was, speaking in these later days, known of Edward of that ilk till Mr. Frederick Martin unearthed, in the vaults of the Royal Exchange, a long-forgotten series of its archives. Then he found "huge stores of manuscript papers and immense leather-cased folios, partly singed in the great fire which, in 1838, destroyed the Royal Exchange above them." Now we know that Lloyd, early in the reign of Charles II., kept a coffee-house in Tower Street, and contrived to make it the gathering point for the underwriters, who had been previously scattered all over the city. This house was near the Custom House, the Navy Office, and the Trinity House, as well as to the Thames "below bridge," and the position was obviously a good one for the purpose. Having surrounded himself with a growing connection in Tower Ward, Lloyd found himself in a position to approach the haunts of the leading merchants and bankers, and we find him in 1693 securely established at the corner of Lombard Street and Abchurch Lane, near the spot where the Lombard Street post-office now stands. Here he held periodical auction sales 'by the candle,' and started a weekly paper devoted to maritime affairs, the first of its kind: indeed it was, saving the *London Gazette*, the only London newspaper yet in existence. But he now met a severe blow, for, as we learn from Macaulay, "the judges were unanimously of opinion that this liberty (of printing) did not extend to gazettes," and that, by English law, no man not authorised by the Crown had the right to publish political news. The said political news in this case consisted of mere headings and brief paragraphs, as, "Yesterday the Lords passed the Bill to restrain the wearing of all wrought silks from India," or that they had received a "petition from the Quakers." Lloyd had to succumb and stop the publication, but his sales of ships and cargoes increased, so that in fifteen or twenty years Lloyd's had become the recognised London centre of maritime business, including marine insurance. From this comparatively small beginning has sprung the all-powerful organisation whose agents are to be found in every part of the habitable globe.

"When," says a writer already quoted, "I landed, about three years back, upon one of the group of rocks lost in the bosom of the waves, and which are called the Scilly Islands, there was only one thing which brought London to my mind, and that was the name 'Lloyd's, in letters of brass, on the door of one of the least poor-looking houses. I might have gone much further afield, into some of the still wilder islands of the Old or New World, and there, even at the very ends of the earth—provided only that there was a town or port of some sort—I should have found an agent of this English society. The definition of Lloyd's which was given by a City merchant can now be better understood by us. 'It is,' said he, 'a spider planted in the centre of a web which covers the whole sea, and the shipwrecked vessels are the dead flies.'"*

* "English Seamen and Divers."

"The loose connection existing between the underwriters of London," says the leading authority on the subject,* "as frequenters of the same coffee-house, where they carried on their business transactions, formed itself into a final 'system of membership' by transmigration to the Royal Exchange in 1774. The author and leading spirit in this all-important movement, which had far-reaching consequences for the commerce, not only of England, but for that of the whole world, was Mr. John Julius Angerstein, a native of St. Petersburg, but of German extraction, descended from an old and highly respected family of merchants." The writer goes on to show how young Angerstein, from junior clerk, had risen to be a successful merchant and underwriter. He became one of the most honoured of those who assembled at Lloyd's Coffee-house, as he was a most sagacious and far-seeing man, of unimpeachable integrity, and when the movement for obtaining a suitable home for the underwriters was mooted he was its greatest supporter. He became virtually the leader in the whole matter, and seventy-nine underwriters agreed to pay one hundred pounds each to start it fairly. Thus was the "New Lloyd's," as it was then called, first organised. It is not, nor ever has been, an insurance *company*, but rather a fraternity of merchants, shipowners, bankers, and capitalists subscribing for a place where they could meet and transact business. It is a maritime exchange. But each man is guided by his own intelligence, and must measure the extent of business which he undertakes by the standard of his personal capital.

"The English merchant especially," says Esquiros, in his charming work, "having so many bonds of union with the ocean, can hardly expect to always have tranquil sleep. Let the south-west squalls be ever so little let loose, the ruin of his house and family is hoarsely muttered through his dreams. Oh, if he could only see from afar the good ship in which he has risked the better part of his fortune! In the morning he rushes to Lloyd's, the fountain-head of all marine news. Nothing, either in his face or conduct, shows the least emotion—he has the art of veiling his features with a mask of indifference; but what a tempest of anxiety rages under this outward calm! He asks himself a thousand questions: What does the telegraph say? What ships have touched at distant ports? What are the names of those which have reached England? To all these questions and many more he finds answers affixed to the walls of the vestibule. There the lists and advices give exactly the maritime bulletin of the day. But the critical moment has yet to come; this man, whose whole fortune perhaps is on the sea, has not at present consulted the 'Loss Book,' or, as it is also called, the 'Black Book.'"

This gloom-inspiring volume is placed by itself on a high desk, and each can refer to it in turn. It is, of course, written by hand, and contains every day the wreck record, briefly told. Laconic as is the formal record—the name of the ship, destination, nature of cargo, coast on which shipwrecked, and so forth—there have been as many as twelve pages blackened with the sad summary of the losses announced by telegraph during one day. "In each of these announcements — frigid and taciturn as fate itself — the mind may conjure up many a sad drama. How many human lives are there

* Frederick Martin: "The History of Lloyd's and of Marine Insurance in Great Britain."

sacrificed? This is often the fact of which the 'Black Book' takes but little notice; the matter with which it has exclusively to deal is the property insured against the perfidy of the sea. Who was the insurer? and who has lost? These are the great questions. It is also remarkable, after a storm, to see with what anxious and fidgety hands some of the insurance speculators turn over the pages of this sibylline book." And no wonder: for the underwriter* is a speculator who is taking long odds against a terrible gambler—the ocean.

The Underwriters' Room at Lloyd's to-day is a splendid hall, with Scagliola columns and richly decorated ceiling, and mahogany tables placed at intervals all round the room. "What an animated, yet demure, hubbub is here!" says the French writer before quoted. "One might fancy that the sea, with the thoughts of which every brain is occupied here, had imparted some of its agitation and uproar to the business world. The current of news, transactions taking place, and chat going on, runs from one end of the hall to the other with a kind of deep murmuring roar." Those going to and fro are of two very distinct classes—the insurers of ships and the insurance brokers. The latter have become very necessary, the reason being as follows:—The merchant who wishes to insure a ship, or a certain kind of merchandise that he is about to export, may by no means always meet the underwriter who is prepared to take that particular risk. While he is trying to insure his ship she may have already started—may even be at the bottom of the sea. In the latter case a delay might be fatal, for the news once arrived that his ship had been wrecked, he could not, of course, effect any insurance. He therefore goes to a broker who knows the habits of the place, and probably the very underwriter whose means or known predilections for certain forms of investment will make him desirous of taking the risk.

The business of Lloyd's is conducted by a committee of twelve influential members, while the working staff includes a secretary, clerks, and a staff of assistants technically known as "waiters," which would make it seem as though the odour of the original Lloyd's Coffee-house still clung to the body. The funds of Lloyd's Association, as it might be termed, are large, and are used to great advantage: partly in charity bestowed upon deserving, though unfortunate seamen, and partly in rewards, in various forms, to special cases of merit. It costs an underwriter £50 entrance fee and £12 annual subscription to belong to it; the brokers are let off for about half the above rates; an ordinary subscriber pays £5 per annum for the privilege of entering the rooms of the Association. We have now traced the history of the greatest maritime company of the world, one that could only belong to a great nation. No other could devise, much less support it.

* The term is applied exclusively to maritime insurers, although, strictly speaking, anyone signing a bond is an underwriter.

THE *GREAT EASTERN* IN A GALE OFF CAPE CLEAR.

MR. I. K. BRUNEL.

MR. SCOTT RUSSELL.
(*From a Photograph by Mayall*, 1858.)

CHAPTER VIII.

The History of Ships and Shipping Interests (*continued*).

The Largest Ship in the World—History of the *Great Eastern*—Why she was Built—Brunel and Scott Russell—Story of the Launch—Powerful Machinery Employed—Christened by Miss Hope—Failure to move her more than a few feet—A Sad Accident—Launching by inches—Afloat at last—Dimensions—Accommodations—The Grand Saloon—The Paddle-wheel and Screw Engines—First Sea Trip—Speed—In her first Gale—Serious Explosion on Board of Hastings—Proves a fine Sea-boat—Drowning of her Captain and others—First Transatlantic Voyage—Defects in Boilers and Machinery—Behaves splendidly in Mid-ocean—Grand Reception in New York—Subsequent Trips—Used as a Troop-ship to Canada—Carried out 2,600 Soldiers—An eventful Passenger Trip—Caught in a Cyclone Hurricane—Her Paddles almost wrenched away—Rudder Disabled—Boats Carried Away—Shifting of Heavy Cargo—The Leviathan a Gigantic Waif on the Ocean—Return to Cork.

Many competent authorities doubt whether the ships of the future will be so very much larger than the largest now in use, but it is one of those questions on which it is idle to theorise, and absurd to dogmatise. The greatest ship of this or any other age has not proved a success, except for some very special purposes for which no other vessel would have proved available. The history of the *Great Eastern* is one of interest to all, and especially to too sanguine and over-ambitious individuals and companies.

In reply to an advertisement from the Admiralty in 1851 for the conveyance of the East Indian and Australian mails, was an application from a new organisation, the Eastern Steam Navigation Company. This offer was declined, and then some of the directors, on the suggestion of Mr. I. K. Brunel, the great engineer, recommended the construction of a

steam-ship of extraordinary dimensions to trade with India. Having made calculations that the big ship intended could maintain a speed of fifteen knots an hour, there was, in their judgment, no doubt that they would attract a proportion of the traffic so handsome as to afford full cargoes both outward and homeward. Many of the original shareholders withdrew, but a large number held firm. Brunel argued that there need be no limit to the size of a ship, except what quality of material imposed. He further urged from scientific theory and actual experience, that upon the "tubular principle," which provided the greatest amount of strength of construction with any given material, it was possible to construct a ship of six times the capacity of the largest vessel then afloat,* and one, too, that would steam at a speed hitherto unattainable by smaller vessels. Mr. Scott Russell, the eminent ship-builder, shared these views. The idea of having two sets of engines and two propellers—paddle-wheels and screw—was solely due to Mr. Brunel, as was also the adoption of the cellular construction, like that at the top and bottom of the Britannia Bridge. Her model in general construction was like that of the ships built by Scott Russell, on the principle of the "wave line," which he had carried out during the previous twenty years. In spite of much virulent criticism, the construction of a 25,000 ton vessel was commenced on May 1st, 1854, in Scott Russell's yard, at Millwall, on the north side of the Thames.

Novel as was the construction of the ship, the mode devised for her launch was no less novel. As her immense length would render it impossible to launch her in the usual manner and by the force of her own gravity, she was built lengthwise to the river on cradles, which carried her upright and dispensed with "shores." These cradles were made to travel on a double series of "ways," each 120 feet in breadth, which were carried to low-water mark. The ways were 300 feet in length, with an incline of one in twelve. At the stem and stern were placed a powerful hydraulic ram to give the first start, and when she was once in motion her progress was to be kept up in the following manner. On the river-side four large lighters were moored in the tideway, and were to work with crabs and sheaves or pulleys upon chains, fastened to the vessel amidships. Two lighters were also moored at the stem and two at the stern of the vessel. The chains passing from the ship to these latter were returned again on shore, so as to be worked with a double purchase. Small stationary engines on land were to be used to haul on these, making a force available to pull the vessel off the shore. The calculations, as the event proved, were made on a false notion of the amount of friction to be overcome, and the attention of the engineer had been chiefly directed to prevent her dashing into the water with too great a speed. For this purpose two powerful drums had been constructed, to which the cradles were attached by enormous sheaves of cast iron, expressly cast for this purpose, and weighing five tons each. One sheave was fastened to each cradle, and wrought-iron chain cables of the largest size connected these with two other sheaves, each of which was screwed to the drum which was to pay out the chain and, in fact, regulate the whole operation. The axle of the drum was set in a frame of iron, while

* See Lindsay's "History of Merchant Shipping," Timbs' "Year Book of Facts in Science and Art," and Irving's "Annals of Our Times." She is still nearly *five* times the size of any merchant vessel afloat; as we have seen, the Inman steamer, *City of Berlin* (5,500 tons), comes next to her. There are ironclads nearly half her tonnage.

around its outer edge passed a band of iron, to work in the manner of a friction-clutch, or break. This, with the aid of strong iron levers twenty feet long, brought such a pressure to bear upon the discs of the drum as to entirely stop them in case of the chain being paid out too fast. Everything being thus prepared that human ingenuity could devise (as was supposed), the launch was fixed for the 3rd of November, 1857. On that day, although the sight-seeing public did not congregate in large numbers, and the scaffolding erected on many points was untenanted, yet there was a swarm of well-laden craft of all kinds on the river, and crowds on both its banks and around the yard. The engineers and men of science mustered strongly, not only from all parts of England, but from Germany, France, America, and Russia. The Comte de Paris, the Duke d'Aumale, the Siamese Ambassadors, and some of the Lords of the Admiralty, were the most conspicuous persons present.

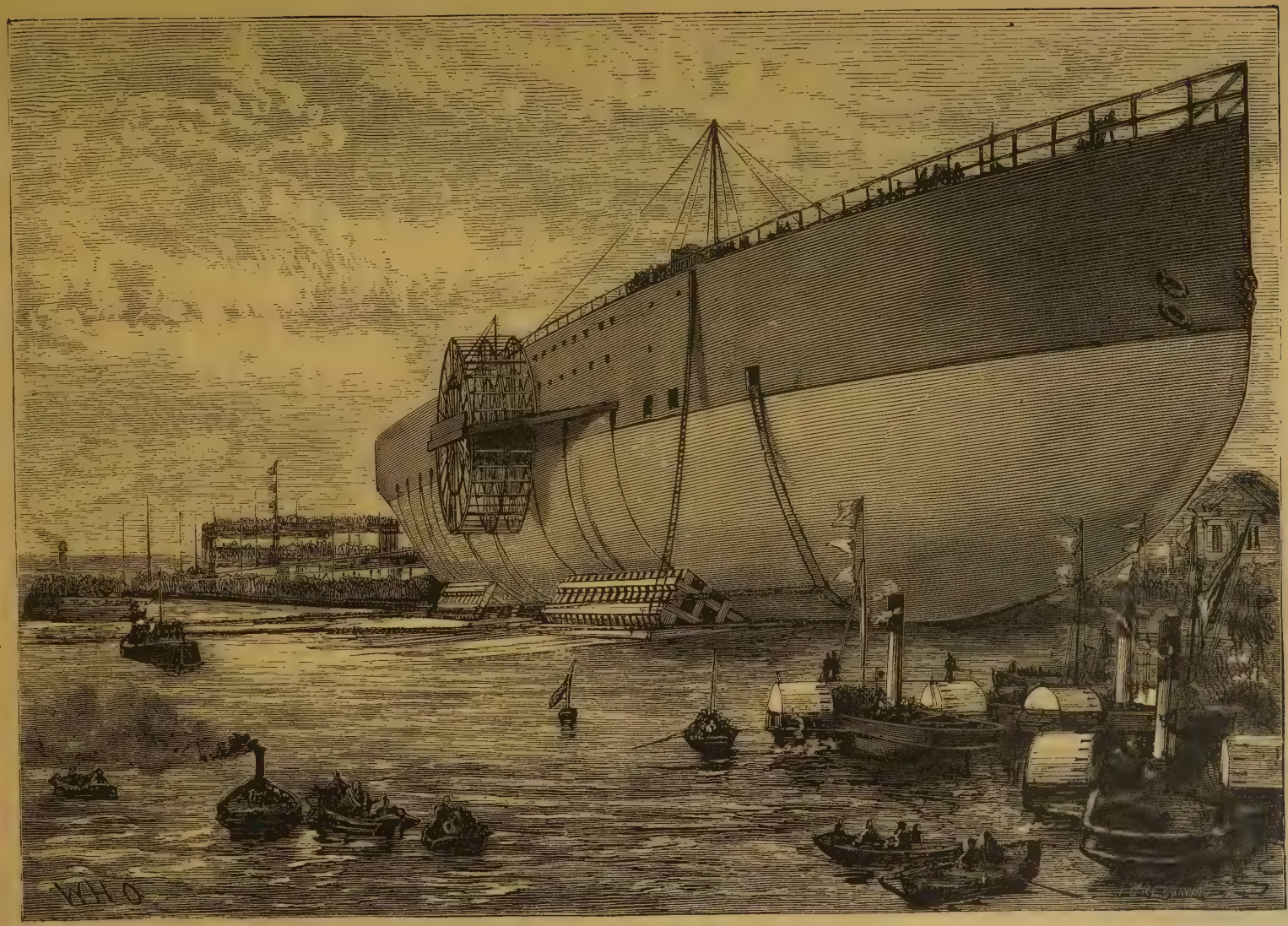
At half-past one Miss Hope, the daughter of the chairman of the company, appeared, and dashing a bottle of wine on the bows, bade the Leviathan, as she was originally called, "God speed!" amid the cheers of those assembled. In a few moments afterwards the word was passed to commence the launch. At the signals the lighters slowly but steadily commenced to haul taut their tackle from the river. This strain appeared to have no effect on the vessel. It remained stationary for about ten minutes, when the peculiar hissing noise of the hydraulic rams at work to push her off was heard. It should have been mentioned that each of the drums was constructed so as to be turned by ordinary windlasses, in order to wind up the slack chain between the drums and the cradles; otherwise, if any slack were left when the hydraulic rams started the vessel, it would run it rapidly out, and dreadful consequences might ensue. When the "rams" began to work, the order was distinctly given to "wind up" the slack between the drum and the cradle. This was done at the forward drum; but, unfortunately, at the stern of the vessel the men did precisely the reverse, and uncoiled more slack chain. Suddenly there was a cry "She moves! She moves!" The fore part of the vessel slipped, and the stern rushed down some three or four feet in the space of a couple of seconds, in consequence of the slack chain from the after drum offering not the least check. In an instant the strain came upon the drum, which was dragged round, and, of course, as that was connected with the windlass by multiplying wheels, the latter turned round some ten or fifteen times for every foot the drum moved. The men at the windlass madly tried to hold it, but the heavy iron handle flew round like lightning, striking them, and hurling five or six high into the air as if they had been blown up by some powerful explosion. A panic seemed to spread as this disastrous accident took place, and the men stationed at the tackle and fall of the lever next the windlass rushed away. Fortunately for the lives of hundreds of the spectators, the men at the lever at the other side of the drum stood firm, and, hauling on their tackle, drew their lever up, and applied the break on the drum with such terrific force that the ship instantly stopped, though she seemed to quiver under the sudden shock as if she had received a violent blow. The injured men were then carried off to a neighbouring house, where one of them shortly died. When the wreck of the accident had been cleared away, it was determined to make another effort to launch the vessel, but without effect; for all pressure that the "rams" could apply was found insufficient to move her. After straining for

some time, the piston-rod of one of the hydraulic rams gave way, and this accident put an end to the attempt to launch the great ship for this day.

Numerous hydraulic machines were now borrowed and fixed, fresh tackle applied, and many novel and ingenious expedients adopted. It was thought necessary to await the next spring tides, in order that the monster when she should be launched might find a sufficient depth of water. The precaution was needless; many weary weeks were to pass before she was afloat. On some days, when every exertion seemed vain, she would capriciously slip a few inches at the stem or stern. After a long interval, another small distance would be accomplished; sometimes a day's journey would be three or four feet, sometimes twenty or thirty. Finally, by continued perseverance, she was brought down the ways until she was immersed some eight or ten feet at high water, and then, as the final launch was certain of accomplishment, it was thought desirable to leave her till the high tides of January should rise so far as to aid materially in her final flotation, and make it practicable to tow her to a secure berth, where her last fittings could be put in, and she could be made ready for a voyage.

With the spring tides the water rose under the great ship nearly eighteen feet; and on the 31st January she gave such signs of buoyancy that it was resolved to float her on that day. The tide ran up with unusual swiftness, and as the flood relieved the weight upon the launching ways some of the hydraulic machines were set to work, for the last time, to push the monster as far as possible towards the centre of the river. She moved easily; and at half-past one the men in the rowing boats stationed alongside observed that she no longer rested on the cradles—that she was, in fact, afloat. The tugs fastened to her began steaming ahead, and showed that at last she was fairly under way. Then the cheers which arose from the yard and from the decks, from the boats in the river, and the crews of the ships at anchor up and down the stream, spread the great news far and wide; and thus, under the most favourable circumstances, the huge vessel commenced her first voyage on the Thames.

And now we must give some description of her internal arrangements and accommodations. The hull is divided transversely into ten separate compartments of 60 feet each, and rendered perfectly watertight by bulkheads, through which there is no opening whatever below the second deck. Two longitudinal walls of iron, 36 feet apart, traverse 350 feet of the ship. This mighty vessel was destined to afford accommodation for 4,000 passengers, viz., 800 first class, 2,000 second class, and 1,200 third class, and a crew of 400. The series of saloons, which were elegantly fitted and furnished, together with the sleeping apartments, are situated in the middle of the ship, and extend over 350 feet of her length. The lofty saloons and cabins are very imposing, more resembling the drawing-rooms of Belgravia than ordinary cabins. The "Grand Saloon" is 62 feet long, 36 feet wide, and 12 feet high, with a ladies' cabin, or rather boudoir, 20 feet in length. Massive looking-glasses in highly ornamented gilt frames decorate its sides. The strong iron beams overhead are encased in wood, the mouldings being delicately painted and enriched with gilt beading. Around two of the funnels which pass through this gorgeous apartment are large mirrors, with alternate highly ornamented panels, and at their base are groupings of velvet couches. The walls



THE LAUNCH OF THE "GREAT EASTERN."

are hung with rich patterns in raised gold and white, and at the angles are arabesque panels, while sofas covered with Utrecht velvet, buffets of richly carved walnut-wood, carpets of surpassing softness, and *portières* of rich crimson silk to all the doorways, give an elegance to the whole far surpassing the gigantic toy ships of ancient monarchs. The paddle-wheel engines can be made to give 5,000 horse-power, and the screw-engines 6,000 horse-power; making 11,000 in all.

On the 9th September, 1859, the vessel, which had now been re-christened the *Great Eastern*, took her first trip from the Thames under the most favourable circumstances, the weather being very fine, with a light breeze of wind, and blue sky overhead. Starting with four tugs, two on the bow and two at the quarter, to guide her through the narrow parts of the river, after some delay and a few slight mishaps, she reached Purfleet, where she anchored for the night. At daylight on the following morning, she started for the Nore, where she arrived about noon, having attained a speed of thirteen knots an hour, though going only at half-speed, her engines making not more than eight revolutions a minute. From the Nore the *Great Eastern* proceeded successfully to Whitstable, where she anchored, getting under weigh there at a quarter past nine on the following morning, with a fresh breeze. After passing Margate she encountered a stiff gale, in which she appeared quite at ease when large ships were under double-reefed topsails, and small vessels were obliged to lie to. But an unfortunate accident occurred to her when off Hastings, through the explosion of one of her funnel-casings, causing the death of six men employed in the engineering department, injuring various others, and destroying nearly all the mirrors and other ornamental furniture in the grand saloon. No injury was, however, done to the hull or machinery of the vessel sufficient to prevent her proceeding on her voyage to Weymouth, which she reached without any further misfortune, on the afternoon of Friday, within the time anticipated for her arrival. On her arrival, the pilot who had been in charge of her from Deptford to Portland (Weymouth Bay) made an official report of her performances to the Company, confirming, in some measure, the glowing accounts in many of the public journals, and realising the sanguine expectations of the directors, though their hopes of profit had been somewhat damped by the accident which, apart from the loss of life, entailed an outlay of £5,000. The necessary repairs having been completed, the *Great Eastern* proceeded from Portland to Holyhead, but without passengers as originally contemplated. Starting at noon of the 8th of October she made the run to Holyhead in forty hours, at an average speed of close upon thirteen knots, or more than fifteen statute miles in the hour, having on some occasions attained a speed of fifteen knots an hour. But upon the whole the expectations that had been formed of her were disappointed. The paddles proved defective either in power or mode of fitting; and the utmost speed attained fell far short of calculation. It began to be suspected that the power of her engines was not proportioned to her tonnage, and the ship was found to roll considerably. It should have been mentioned that, whilst lying outside Holyhead harbour for the purpose of further trials, she became exposed to the full fury of the hurricane of the 26th October. In this terrific storm the ship behaved nobly, but was at one time in considerable danger of being driven ashore. She returned to Southampton, and was berthed for the winter in Southampton Water.

On the 21st January, the captain of the *Great Eastern*, Captain Harrison, was drowned in Southampton Water by the capsizing of a small boat carrying him from the ship to the town. The boat, which was fully manned by six picked seamen and the captain's coxswain, was seized in a sudden squall near the dock-gates, and upset before the trysail could be lowered. Boats were at once put off from the *Indus* to the rescue, but when Captain Harrison was reached, the body was floating a little under water, and life was quite extinct—death being apparently the result of apoplexy caused by the intense cold. The coxswain was found insensible close by, and survived only till the evening. A fine youth, son of the chief purser, was also drowned; the chief purser himself (Mr. Lay), and Dr. Watson were amongst those saved with the crew.

The *Great Eastern* made her first Transatlantic voyage to New York after a very successful but by no means rapid passage of ten days and a half. In many respects the vessel fully answered the expectations of her builders. Her vast bulk aided the fineness of her lines in cutting through the opposing waves without any apparent shock. To those which rolled upon her sides she rose with a easy swing, and they passed to leeward, seemingly deprived of their fury; others struck her with full force, but no vibration or shock was communicated to the vast mass. It was speedily discovered that there were two prime defects in her appointments—it was impossible to raise the steam in the boilers which animate the paddle-wheel engines to the full power; and the wheels themselves were not so placed as to act on the water with effect.

On the 21st, the power of the ship was put to a most trying test. A strong north-westerly gale had raised a rough sea. "It has always been said that she never could or would pitch, but the truth is this ship does just the same on a small scale that ordinary vessels in a sea may do on a very large one. The *Great Eastern* against a head sea makes a majestic rise and fall, where a steamer of 2,000, or even 3,000, tons would be labouring heavily, and perhaps taking in great seas over her bows. On this Thursday she dipped down below her hawse pipes. It was a fine sight to watch her motion from the bows, splitting the great waves before her into two streams of water, like double fountains, and to look along her immense expanse of deck as she rose and fell with a motion so easy and regular that the duration of each movement could be timed to the very second."

On the 23rd, the ship being off the banks of Newfoundland, the temperature decreased so rapidly that it was feared that floating icebergs were near, and the speed was slackened, and precautions taken against accident; and, on the 26th, when not more than 450 miles from New York, the ship ran into a dense fog, through which she had to feel her way. These circumstances materially affected the duration of the voyage. The most anxious part of the whole navigation was now at hand—the passage over the shoals and bars which impede the passage to New York harbour, and the ship was repeatedly stopped to take soundings. All dangers were boldly passed, and the dawn of the 27th showed the coast in a dim blue line, with the spit of Sandy Hook lying like a haze across the sea. The lighthouse was passed at 7·20 a.m., and the *Great Eastern* had completed her first Transatlantic voyage. From Sandy Hook the vessel passed into the harbour, stirring up the sand on the bar, but escaping all danger by the admirable readiness with which she

answered her helm. The advent of the great ship had been expected in America with an eagerness which cast into the shade even the interest taken in her at home. She was a great and startling "fact." Therefore, no sooner was her arrival telegraphed, than the bay was studded with yachts, schooners, and steam-ships, whose passengers marked every portion of her progress with vociferous cheers; all the ships were covered with flags, the bells rang out, the cannon roared, the wharfs and houses were crowded with enthusiastic welcomers. Even the Government Fort Hamilton fired a salute of fourteen

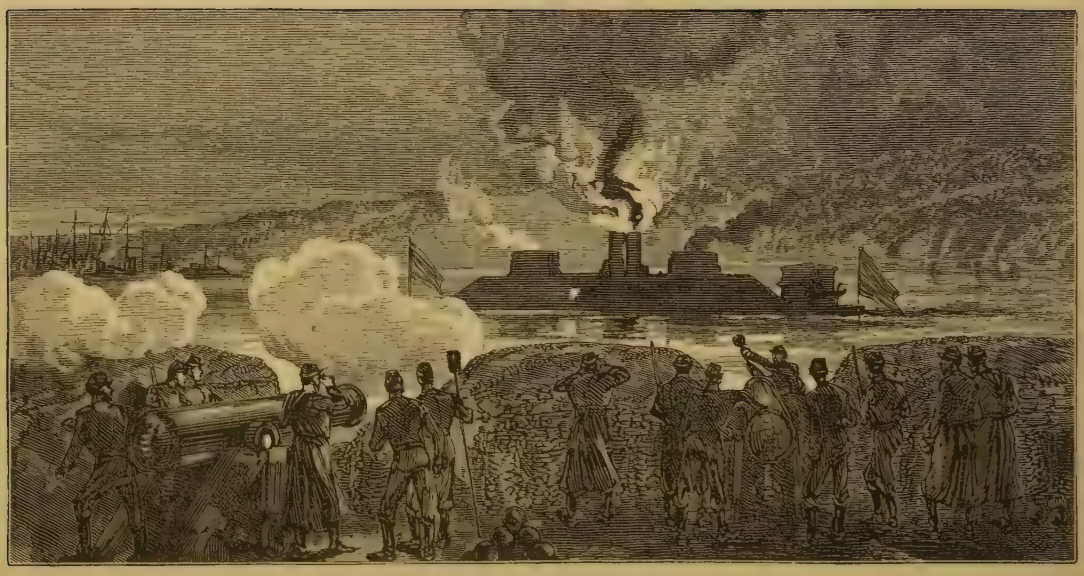
ARRIVAL OF THE "GREAT EASTERN" AT NEW YORK.

guns. The return voyage was uneventful. In May, 1861, she again started from Milford Haven for New York, on an ordinary passenger voyage, and made a very successful, but not very rapid, passage of nine days thirteen and a half hours, the greatest distance run in one day being 410 statute miles. She commenced the return voyage on the 25th May, and arrived off Liverpool in nine and a half days, running in one day 416 statute miles.

When civil war in the United States forced on the English Government the fact of the defenceless state of Canada, it was resolved to send out reinforcements with the greatest speed, and the *Great Eastern* was taken up as a troop-ship to convey 2,500 men, 100 officers, and 122 horses. In addition to these, were about 350 wives and children of the soldiers. She sailed from the Mersey on the 27th of June, and made her voyage with

DESTRUCTION OF RUDYERD'S LIGHTHOUSE.

such speed and safety that her real use appeared to have been discovered at last. This success inspired confidence, and when she was next announced to sail with passengers, nearly 400 persons engaged first and second-class berths. Among them were several parties, and an unusual proportion of ladies. A very considerable cargo was also sent on freight. She left the Mersey on the 10th September, and commenced her voyage with every prospect of success. But, when about 250 miles westward of Cape Clear, she was caught in a tremendous gale. She appears to have been in the very centre of a cyclone hurricane. In the midst of this whirlwind one of the forward boats broke loose. The captain ordered the helm to be put down, in order to bring the ship up into the wind, that the boat might clear the wheel. The ship refused to answer her helm. Some hand-sails were then set with the same object, but they were instantly blown to shreds. Soon a terrific noise was heard, and it was clear that something had gone wrong with her machinery. The waves had struck her paddles with such force that they were bent, and scraped the ship's side at every revolution, threatening to shear away her iron planking. Under these circumstances it was necessary to stop the paddle engines and trust to the propeller for progress. This, of course, did not add to the power of steering; for, if the helm was insufficient when the power was amidships, it was, of course, still less effectual when the power was all astern. The ship, therefore, lay exposed to the tremendous lashing of the sea, which ran mountains high. One by one the floats were struck away, and at daybreak the next morning nothing of the paddle-wheels was left except twisted iron rods attached to the shaft. Nor was this the extent of the misfortune. The stress upon the rudder, now that it had to control the entire length of the ship, was tremendous, and about 5.45 a.m., during a terrific sea, the top of the rudder-post, a bar of iron ten inches square, was wrenched away. The ship had now entirely lost steerage power, and lay utterly at the mercy of the waves. She rolled tremendously. The hapless passengers were dashed from side to side; the cabin furniture broke loose, as well as the cargo, crushing everything they touched. In the hold, tallow-casks, weighing many hundred-weight, and a chain cable of many tons, got loose in one of the compartments, and threatened to burst out the ship's side at every roll. Many of the passengers were severely injured. The decks were swept, six boats were carried away, and two were broken to pieces. In this precarious condition the ship lay from Thursday to Sunday evening, a waif upon the ocean. At length, on Sunday afternoon, the violence of the wind abated, the sea went down, and chains were got out and connected with the rudder, so that some, though a very imperfect, purchase was obtained. Some apparatus was constructed and got overboard, by which the ship was steadied and the steering power increased. By these means her head was got round and a course was made for Cork Harbour. On Tuesday she was off the Old Head of Kinsale, and in the afternoon at the entrance of Cork Harbour, but she was unable to enter. She therefore remained outside in great peril, for she was blown out to sea again, and drifted to some distance before she was enabled to enter. Her subsequent history, in connection with the laying of the Atlantic cable, belongs to another section of this work.



THE "MONITOR" PASSING THE VICKSBURG BATTERIES.

CHAPTER IX.

The History of Ships and Shipping Interests (*continued*).

The Ironclad Question—One of the Topics of the Day—What is to be their Value in Warfare?—Story of the Dummy Ironclad—Two Real Ironclads vanquished by it—Experience on board an American Monitor—Visit of the *Mian tonoma* to St. John's—Her Tour round the World—Her Turrets and Interior Arrangements—Firing off the Big Guns—Inside the Turret—"Prepare!"—Effects of the Firing—A Boatswain's-mate's Opinion—The *Monitor* goes round the World safely—Few of the Original American Ironclads left—English Ironclads—The *Warrior*—Various Types—Iron-built—Wood-built—Wood-covered—The Greatest Result yet attained, the *Inflexible*—Circular Ironclads—The "*Garde Côtes*"—Cost of Ironclads—The Torpedo Question—The Marquis of Worcester's Inventions—Bishop Wilkins' Subaqueous Ark—Fulton's Experiments—A Frightened Audience—A Hulk Blown Up—Government Aid to Fulton—The *Argus* and her "Crinoline"—Torpedoes successfully foiled—Their use during the American War—Brave Lieut. Cushing—The *Albemarle* Destroyed—Modern Torpedoes: the "Lay;" the "Whitehead"—Probable Manner of using in an Engagement—The Ram and its Power.

Early in these chapters, allusion was made to one of the most important of all vital topics connected with shipping interests—the ironclad question—and as it concerns the well-being of the Royal Navy, it concerns that of the nation itself, and no excuse can be needed for its discussion here. Day by day we hear of new types of armoured vessels, single specimens costing the price of a small fleet of former days. That, under certain conditions, they must prove very formidable, there can be no doubt. But, it must be asked, are the bulk of them seaworthy ships? How far is torpedo warfare to interfere with their employment? Are they worth their price to the nation?

Their history so far has been one as much, and indeed far more, of failure than success. "Our submarine fleet" has become a byword, while none of their exploits have excelled those of the *Merrimac* and *Monitor*, two of the very earliest examples constructed. Indeed, the writer knows no more successful results attained than by an improvised "dummy" ironclad during the American war. The ridiculous often merges into or mingles with

the important and the sublime, and the story, little known in England, is inserted here to show how much may sometimes be done in warfare with insignificant means.

The incident occurred in February, 1863. An old coal barge* adrift had been picked up in the James River, and the brilliant idea seized some of Admiral Porter's men to convert her into a "monitor." The whole scheme was carried out in twelve hours. In fact, her construction was hardly more solid than the "paper forts" built of canvas and boards by the Chinese during our war with them, and which collapsed after a shot or two as readily as would the "Rock of Gibraltar" or "Mount Vesuvius" at a firework display. The barge was built up high with boards, while funnels and turrets constructed of pork-barrels reared above, and two old canoes did duty for quarter-boats. A small house, taken from the back yard of a planter's dwelling, stood for the pilot-house. Her furnaces were built of mud or clay; they were only intended to make smoke, not steam. Then a good coat of black paint or pitch; her furnaces were filled with pitch and other inflammable materials, and she was ready. As soon as the "dummy" turned adrift on the Mississippi came in range of the Vicksburg batteries, the alarmed garrison opened fire upon it. The black monitor glided down the stream, belching out fire and smoke, but gave not a shot in return. With amazement the Vicksburg soldiers found that they could not make the slightest impression on the turreted monster. They did not know that it was full of water, and had not a man on board! In ominous and silent disdain she seemed to be making for the Confederate ironclads; one of them, the *Queen of the West*, leaving part of her crew ashore, incontinently fled, with all her steam power, making the best of her way to the Red River. The *Indianola*, a vessel previously captured from the Northerners, was lying aground, and not to be taken by this ruthless monster of a monitor, was ordered to be blown up, which was accordingly done. Thus was this bloodless victory gained by the dummy ironclad. It is not impossible that we may hear of similar tricks in future warfare, as all is fair therein.

The following experiences on board an American monitor are kindly sent to the writer by a friend, formerly in the Royal Navy.

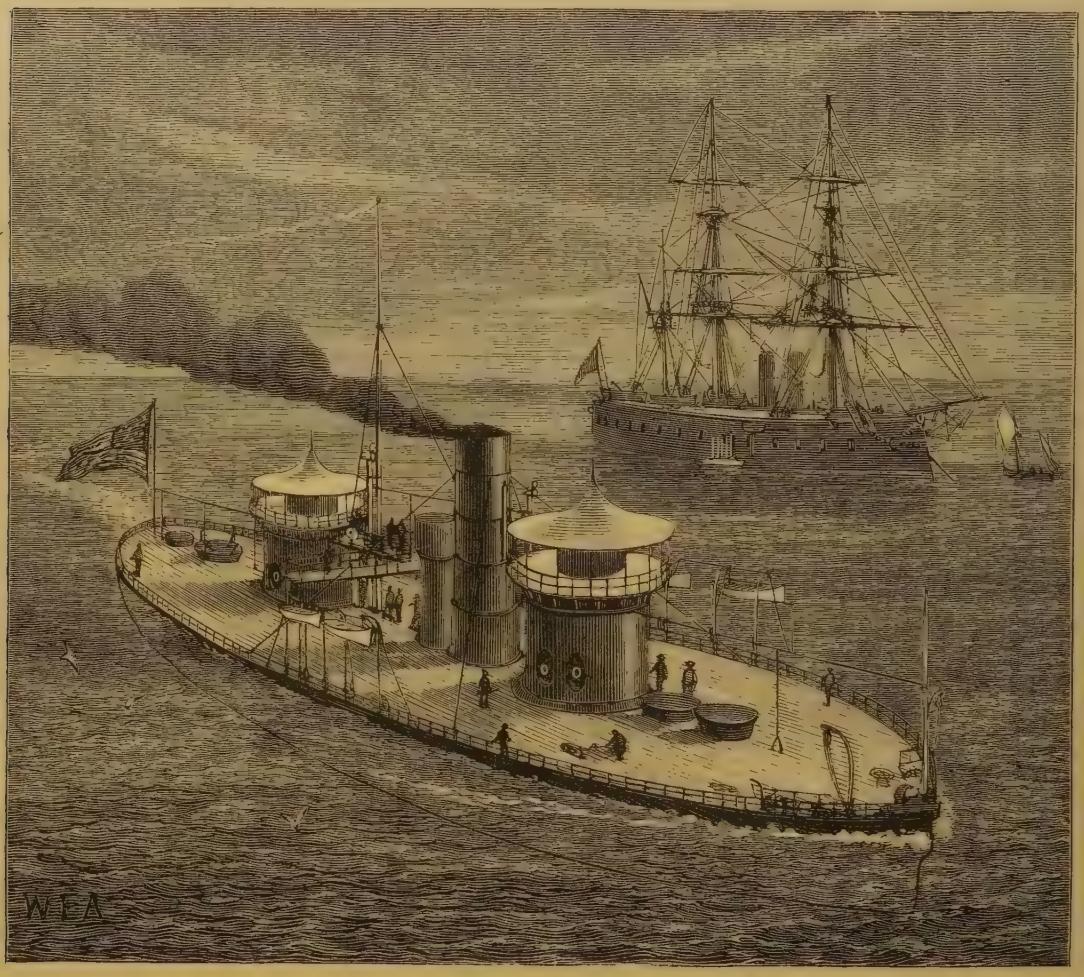
"Great, indeed, was the excitement caused by the deeds of the *Monitor* and *Merrimac* amongst the officers and men of Her Majesty's North Atlantic Squadron. Whether dancing in Halifax, chasing French fishermen on the Newfoundland coast, or 'sunning'† in St. George, there was always to be found some one, from captain to loblolly boy, with a new story of the prowess of these formidable monsters of the *shallows!* I write 'shallows' advisedly, for if the experience which I am about to narrate proves anything, it will be that as a 'deep water' or sea-going craft the *Monitor* is practically useless.

"Notwithstanding a certain eagerness to behold a specimen of their floating batteries, curiosity was not destined to be gratified until nearly two years after the close of the American War, when the United States Government determined on sending a representative —the *Miantonoma*—to make a tour of the world. The object of this resolution was to prove that the American invention was not a mere floating battery, but was destined to revolutionise the system of armour-plated ships. The *Miantonoma* was accompanied when

* One account says a "ferry-boat," meaning probably one of the large steam ferry-boats common in America.

† "Sunning" means, in some parts of Canada, the act of promenading.

she made her appearance in the harbour of St. John's, Newfoundland, by two tenders, one a second-class corvette, the other a captured blockade-runner, which had been mounted with a single 'Parrot' pivot gun, throwing a spherical shot of 180 lbs. This projectile was dubbed 'the Devil' by those on board, who were by no means anxious to hear its voice, for the lightly-built blockade-runner trembled in every knee at each discharge. Never-

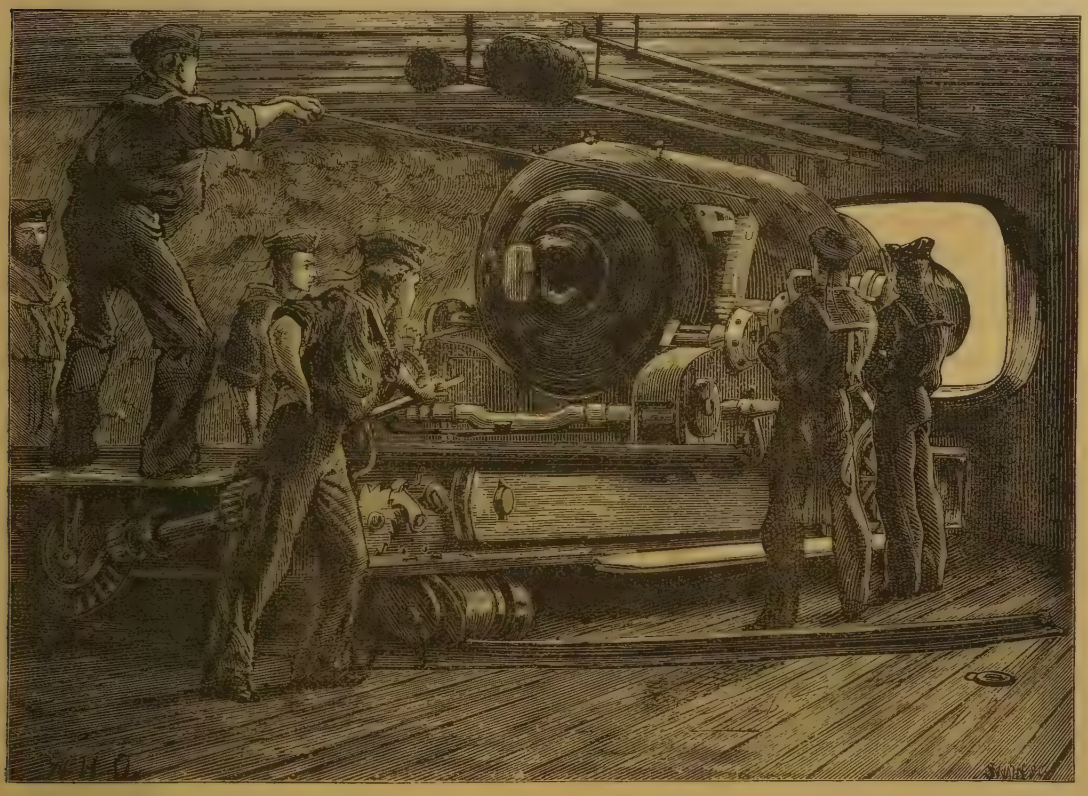


THE "MIANTONOMA."

theless, such a vessel properly built is destined to play an important part in the navy of the future, when our present unwieldy ironclads shall have been relegated to that bourne where torpedoes cannot terrify.

"The *Miantonoma* was a twin-turreted monitor, carrying two of Parrot's 480 pounder smooth-bore. Her spar-deck, which was flush fore and aft, was about two and a half to three feet above the surface of the water in harbour. What we would call the gun-deck was below the water-line some eight feet, and here at sea during any sort of rough weather, the men were compelled to live. Air was supplied (faugh! what an

atmosphere it was, even in harbour!) by means of pipes which ran up to a scaffolding —I can find no better name for the structure—elevated above the spar-deck fifteen feet. Here were the wheel-house and a place for the look-out. But as it was apprehended that the first respectable gale would take charge of the flimsy structure and sweep it all away, a 'preventer' steering apparatus worked below, and knowledge was gained of what was going on in the upper world by means of reflectors. Two things struck the eye of an observant stranger on gaining the side. The first was the formidable appearance of the



INTERIOR OF A TURRET SHIP.

turrets—the latter, *mirabile dictu*, the number of spittoons! At once it became evident that such a craft as that which, if you please, we are now aboard of, could never be taken by boarding. Given the flush deck filled with an armed host; one of these terrible turrets would slowly turn round, the shield protecting the embrasure would fly back, a gaping volcano would belch forth, a whirlwind of flame and smoke only—no need, indeed, would there be for iron orbs at such quarters—and, ere its shield had once more covered grinning death, the armed host would have been swept away.

"It is Her Majesty's birthday, and the *Miantonoma* steams away with those who have been invited on board to witness the firing of the big guns. The salute cannot be fired in the little harbour, else surely every pane of glass from the block-house to Riverhead

will pay the penalty. So Freshwater Bay is to have the honour of hearing man's thunder reverberating along its hill-girded shores.

"Bang, bang—pop, pop, bang. You hear the Armstrongs and old field-pieces go off from Her Majesty's men-of-war in harbour, and Her Majesty's Fort William and water batteries. Then you descend to utter silence. You ascend again through a trapdoor, and find yourself in a circular room, some twelve feet in diameter, padded from top to bottom like the interior of a carriage. By your side is a huge mass of iron. You are inside the turret. A glimmering lamp sheds its feeble light on the moving forms around you, and from below comes the faint whispering of the men, until the trap is shut and you are again in utter silence.

"'*Prepare!*' The gunner's mates stand you on your toes, and tell you to lean forward and thrust your tongue out of your mouth. You hear the creaking of machinery. It is a moment of intense suspense. Gradually a glimmer of light—an inch—a flood. The shield passes from the opening—the gun runs out. A flash, a roar—a mad reeling of the senses, and crimson clouds flitting before your eyes—a horrible pain in your ears, a sense of oppression on your chest, and the knowledge that you are not on your feet—a whispering of voices blending with the concert in your ears—a darkness before your eyes—and you find yourself plump up in a heap against the padding, whither you have been thrown by the violence of the concussion. Before you have recovered sufficiently to note the effects I have endeavoured to describe, the shield is again in its place and the gun ready for re-loading. They tell you that the best part of the sound has escaped through the port-hole, otherwise there would be no standing it, and our gunner's mate whispers in your ear: 'It's all werry well, but they busts out bleeding from the chest and ears after the fourth discharge, and has to be taken below.' You have had enough of it too, and are glad that they don't ask you to witness another shot fired.

"Since the *Miantonoma's* time vast improvements have been made in the matter of turret firing. The guns are now discharged by means of an electric spark, which obviates the necessity for having anyone in the turret, and is certainly a great blessing.

"'And what do you think of her?' I asked a boatswain's-mate. 'Think of her, sir!' he replied. 'I think, sir, that she's a floating coffin, and I would as soon live in ——. Every time we're out of harbour she goes under water, and don't come up till we get in again, as the saying is. We are just cooped up here waiting for a big wave to come and swallow us, for she don't rise to the waves, she goes through 'em.' Then, becoming more confidential, 'Tower of the world be hanged, sir! None of us believe we'll ever see Queenstown, and if we only had a chance to get ashore, there ain't a man but what would desert, I guess.'

"I must draw the reader's attention to the fact that I give this sailor's statement for what it is worth. The officers, one and all, as far as my memory serves me, stated that she was a very good sea boat; better, indeed, than they expected, though somewhat sluggish in the water. I may add that the *Miantonoma* not only reached Queenstown, but *did* succeed in making a tour of the world. Yet it was alleged that her crew, with the exception of some twenty men, were put into the tenders, and that she was towed across the 'herring pond' and round the Horn by them. From these facts and rumours the

reader may form his own opinion as to the seaworthiness of the American monitor. My belief is, that for a sea-fight, especially should one occur in a gale of wind, they are practically as useless as a hay-barge, while for harbour defences they have proved themselves invaluable. Of all the splendid fleet of monitors possessed by America at the close of the Federal and Confederate war, there are scarce any left to keep up the reputation of the United States as a naval power. They were contract built, of green oak. The Philadelphia and San Francisco navy yards afford ample proof that a decade has sufficed to destroy what shot and shell found almost invulnerable. Such splendid specimens of naval architecture as the *Brooklyn* and *Ohio* alone are left to keep up the appearance of America's naval strength on foreign stations. But let us hope that her 'shoddy' monitors, like her shoddy blankets or wooden nutmegs, have passed away with her convalescence from intestine wounds, and that the next decade may witness the Stars and Stripes floating powerfully and peacefully side by side with the Union Jack, omnipotent for good."

Any such expression of feeling in regard to the safety of English ironclads, in spite of the terrible loss of the *Captain*, and that of the *Vanguard* (only less serious inasmuch as no lives were sacrificed), would not be echoed by any British sailor on board them. The accommodations, barring the general darkness and sense of gloom inside, only partially illumined by the fitful light of lamps, are generally good, and it is by no means certain that when the electric light has attained that perfection at which its promoters are aiming, there can be any complaint on that score at all. Still, until some grand success has been attained by ironclads, it is very questionable whether they can be thoroughly popular, except to courageous, scientific, and ambitious officers, of whom the service, the writer is certain, does not stand in need. We have had a "Man of iron" ashore, and we shall have him afloat when the occasion requires.

The first types of ironclads introduced into the Royal Navy, as for example, the *Warrior* and *Black Prince*, were nearly identical in general appearance to the war-ships of the day. Now *all* British ironclads are built with sides approaching the upright or vertical above water. At first they only attempted broadside fire; now bow and stern guns are common. The *Warrior*, as the earliest example of an ironclad in the Royal Navy, deserves special mention. She is doing duty to-day, and is by no means an effete example, but an excellent and useful vessel. She is armoured at the middle only, in the most exposed parts. In other words, her engines and leading guns are protected, while the rest of her hull, though strong, is not armour-covered. *Now*, whatever weight of armour this central, or "box-battery," as it has been termed, may have, there is always a continuous belt of iron extending from stem to stern, and protecting the region of the water-line and steering gear, the counter of the ship being carried below the water in order to screen the rudder-head. This improvement is due to Sir Spencer Robinson. The *Warrior's* armour was uniform in thickness; now it is strongest in the vital parts. The *Warrior* had only a main-deck battery armour plated; recent ships have had a protected upper-deck battery given them. The *Warrior* carried a large number of guns in an outspread battery; all later ships, of whatever type, have had a *concentrated* battery of much heavier guns. This early armoured ship is long; nearly all later examples are much shorter in proportion to their breadth.

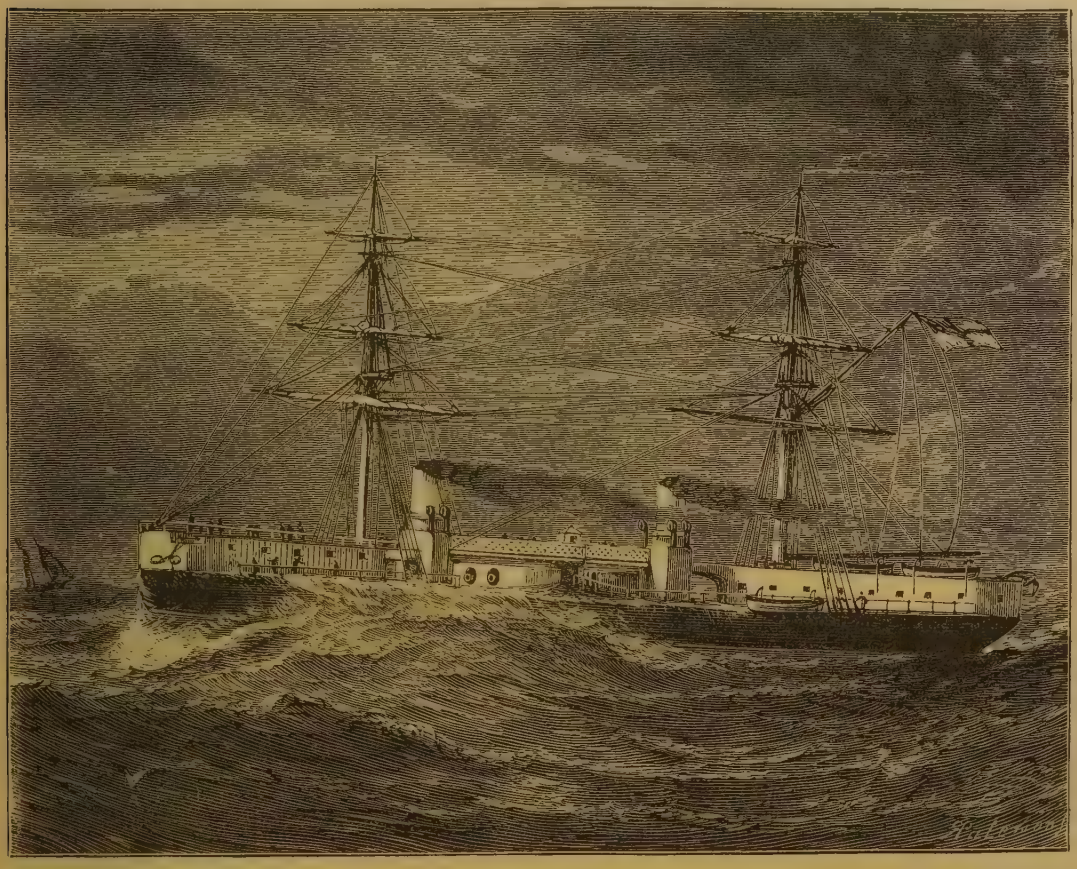
And now to the armour itself, which is sometimes affixed to an iron and sometimes to a wooden hull, and in a few cases has wood *outside* it. These facts, by no means generally known, must be studied, for it can hardly yet be said to be determined which is the better form. It may be said, in general terms, that the "adoption of armour-plating was accompanied in this country by the introduction of iron for the construction of the hulls of ships of war, and our ironclad fleet is for the most part *iron-built*. We have, it is true, a number of wood-built ironclads, but most of these are converted vessels."* Several were built of wood (and then armoured) for the purpose of utilising the large stocks of timber accumulated in the dockyards. In the future it is probable that nearly all will be of iron, with wood backing. The armour of the *Warrior* is only 4½ inches thick, with, however, a "backing" of 18 inches of timber. This type includes the *Black Prince, Achilles, Defence, Hector, Valiant,* and *Prince Albert.* Then we come to another series, of which the *Bellerophon, Penelope, Invincible, Audacious, Swiftsure, Triumph, Iron Duke,* and unfortunate *Vanguard* furnish examples. They average 6 inches of iron-plating to 10 inches of wood backing. The lost *Captain* was somewhat heavier in both plating and backing. Then again we advance to a still heavier type—12 inches of iron to 18 inches of wood: the *Glatton, Thunderer,* and *Devastation* furnish examples. Then there is the *wood-built* class, the thickness of their (wooden) sides ranging from 19½ to as high as 36 inches, with 4½ to 6 inches of armour. The *Royal Sovereign* (a turret ship) is a leading example of this class; she has 5½ inches of armour, covering 36 inches of wood.

To speak of all the types of armour-clad ships would most undoubtedly weary the reader. Let us examine a leading example. The *Inflexible* (double turret ship) is probably the greatest result yet attained. She is an ironclad of 11,400 tons, with 8,000 horse-power, her estimated first cost being considerably over half a million sterling. She is 320 feet long, and has armour of 16 to 24 inches thick, with a backing of 17 to 25 inches of wood. She has no less than 135 compartments, while her engines are so completely isolated that if one breaks down the other would be working. "But already, as if to show the impossibility of attaining the stage of finality as regards the construction of our men-of-war, there is every reason to believe that she has been excelled. . . . Designed," says our leading journal,† "as an improvement upon the Russian *Peter the Great,* she will herself be surpassed by the two Italian frigates which are building at La Spezzia and Castellamare. . . . While the *Inflexible's* turrets are formed of a single thickness of 18-inch armour, and her armament consists of four 81-ton guns, the turrets of the *Dandolo* and the *Duilio* are built of plates 22 inches thick, and are armed with four 100-ton guns." The writer then enlarges on recent gunnery experiments, showing that even the enormous thickness of the *Inflexible's* iron sides have been pierced, and concludes by saying that, "so far as the exigencies of the navy are concerned, the limit of weight seems to have already been reached, for the simple reason that the buoyancy of our ironclads cannot with safety be further diminished by the burden of heavier armour and armaments." The

* The larger part of the above information is derived from "Our Ironclad Ships," by E. J. Reed, late Chief Constructor of the Navy.

† The *Times*, April 26th, 1876.

leading feature in this vessel is the situation of the turrets. In most turret ships afloat these batteries are placed on the middle line, and in consequence only one-half the guns can be brought to bear on an enemy either right ahead or directly astern. In the *Inflexible* the turrets rise up on either side of the ship *en échelon* within the citadel walls, the fore turret being on the port side and the after turret on the starboard side. By these means the whole of the four guns can be discharged *simultaneously* at a ship right



THE "INFLEXIBLE."

ahead or right astern, or, in pairs, towards any point. What vessel could withstand such a fire rightly directed?

As we have seen, the forms and proportions of ironclads have undergone enormous changes from the days when the success of the plated floating batteries at Kinburn called the special attention of Europe to the possibility of successfully protecting vessels in the same way. The shot of the enemy had no effect on these batteries. A special correspondent of the *Times* said: "The balls hopped back off their sides without leaving an impression, save such as a pistol-ball makes on the target of a shooting gallery. The shot could be heard distinctly striking the sides of the battery with a 'sharp smack,' and then

could be seen flying back, splashing the water at various angles according to the direction in which they came, till they dropped exhausted."

One of the greatest novelties is the *circular* ironclad, proposed long ago by Mr. John Elder, in a paper read before the United Service Institution, and carried out by Admiral Popoff, of the Russian navy, who designed one which was afterwards constructed and was christened the *Novgorod*. She was 100 feet in diameter, with curved deck, the highest point of which was only five or six feet above the water. She carried two 28-ton guns. Its model might be described as a floating saucer with a comparatively flat covering. It is even asserted that a good speed is attainable with such vessels, and that they are steerable, if hydraulic machinery is employed. Mr. Elder's plan was as follows:—When a revolving pilot-house on the vessel turned, a jet of water was ejected in a backward line to the very course proposed to steer. The pilot or steersman—having a complete control of the movements of the pilot-house, and a clear look out a-head—only arranged to steer in a particular direction, and the water jet propelled the vessel to its destination. Such vessels are fit for nothing better than river or harbour protection.

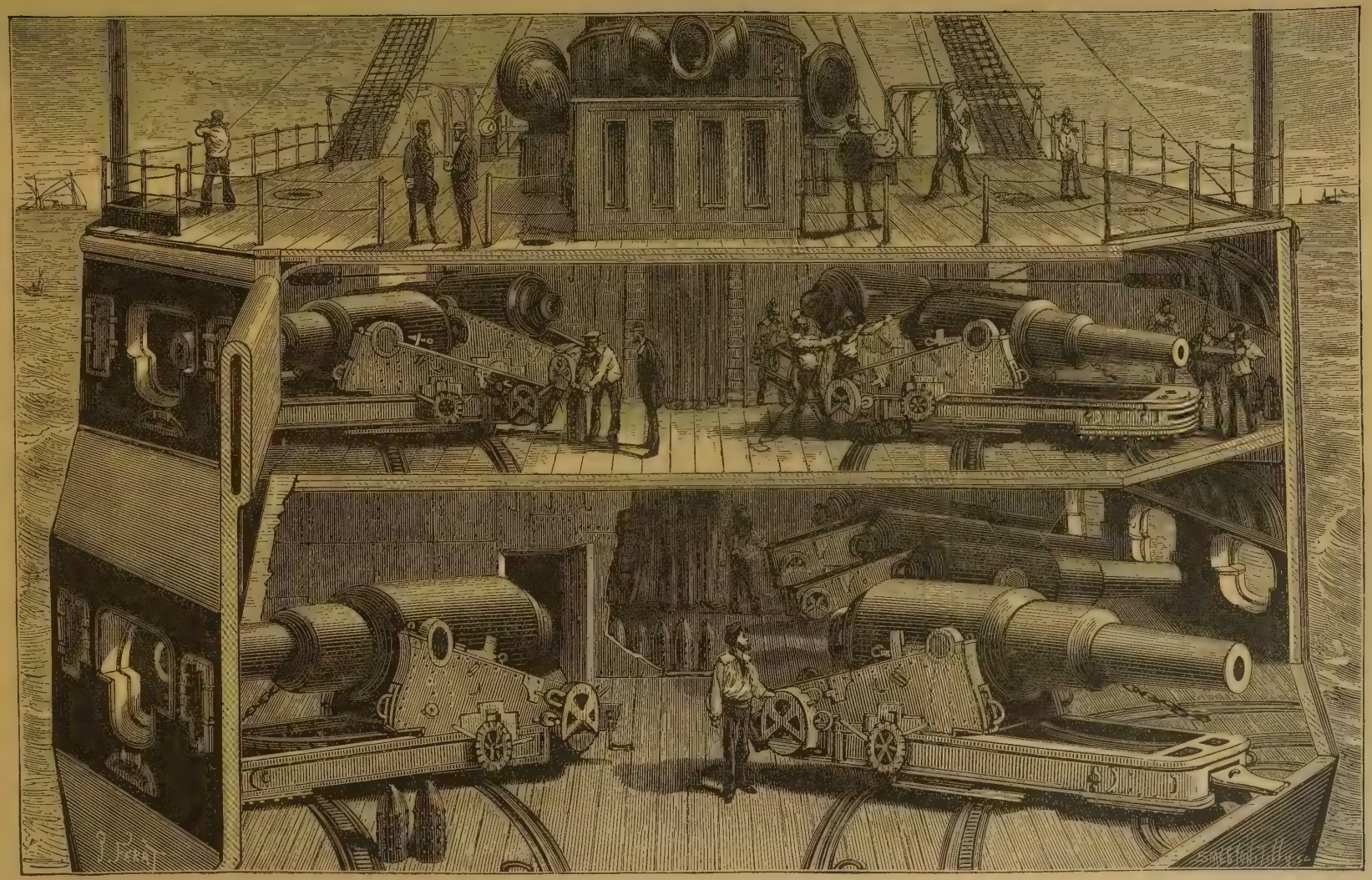
The *Alexandra*, whose batteries we show on the opposite page, is one of the most efficient of our English armour-plated ships. She was built at Chatham, and launched in 1875. She was specially built for speed, and carries the maximum weight of armour consistent with sea-going qualities. She is armed with three guns of twenty-five tons each and nine of eighteen tons.

A new form of ironclad, destined for coast duty, has also been introduced in Holland and France. These Governments consider that for the defence of a coast-line, fixed land batteries are not sufficient. They have, therefore, adopted a ponderous form of turreted ironclad, which the French term *garde-côtes*. They are not supposed to be adapted for long sea voyages, as they are veritable floating iron castles, carrying not merely heavy guns, but whole batteries of smaller guns. They have good engine power, and can, therefore, be moved to any part of the coast with ease.

The cost of ironclads to this country has been very serious. Mr. Reed puts it down at a million sterling a year since their inauguration.* For the eighteen years preceding 1876, they cost £16,738,935, and with the cost of wear and tear, repair, and maintenance, not less than £18,000,000. £300,000 was required for repairs and maintenance alone in one year, perhaps an exceptional case. The *Warrior*, built in the year 1860, cost, to 1876, for maintenance and repair, no less than £124,245, or about a third of her original cost. She is the earliest type of ironclad, and of small tonnage compared with several of her successors. What *they* may cost to maintain is a still more serious problem. Single ironclads have cost the country half a million sterling; the *Inflexible*, £600,000.

Connected intimately with the ironclad question is the torpedo movement. From an early date schemes have been devised for injuring an enemy's vessel by submarine apparatus and otherwise than by guns. In the seventeenth century, we find the celebrated Marquis of Worcester describing such apparatus. The ninth of his "Century of Inventions" describes a small engine, portable in one's pocket, which might be carried and fastened on the inside of the ship, and at any appointed time, days or weeks after, at the will of the operator, it should explode and sink that vessel.

* *Vide* "Our Ironclad Ships."



SECTION OF THE "ALEXANDRA.

In his tenth invention, the Marquis of Worcester describes "a way from a mile off to dive and fasten a like engine to any ship, so as it may punctually work the same effect, either for time or execution." The details of construction and working are left to the reader's imagination.

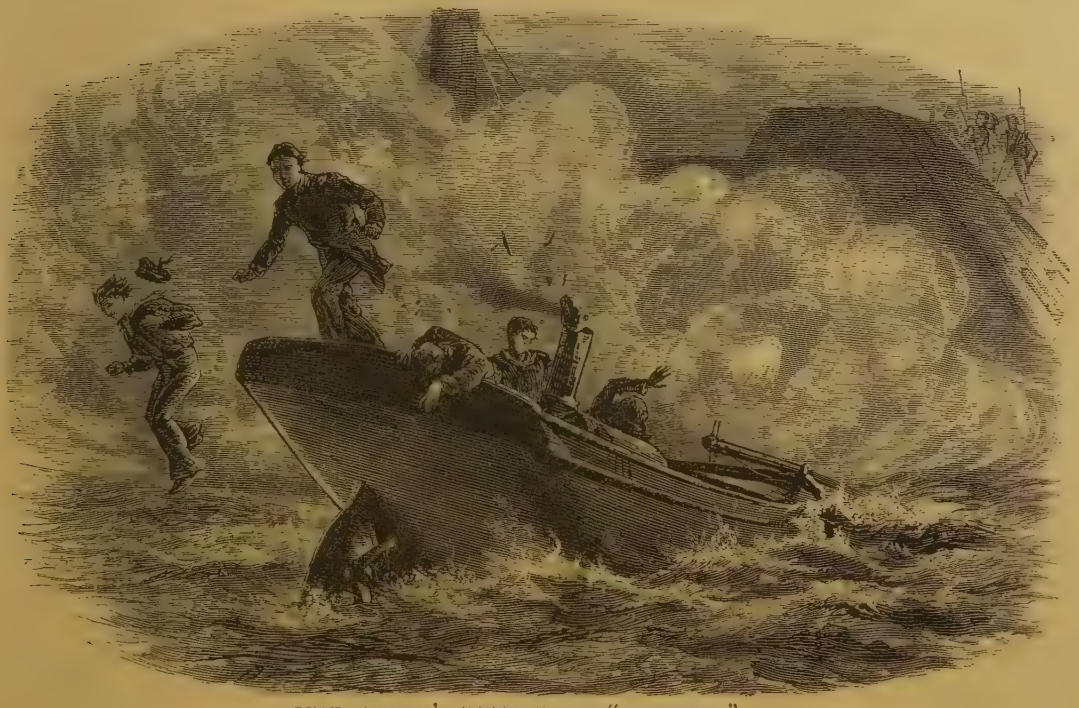
Bishop Wilkins, in a curious work on "Mathematical Magick," published in 1648, describes a possible submarine vessel, or "ark," as he terms it. He says that it "may be effected beyond all question, because one Cornelius Dreble hath already experimented on it here in England." Of Dreble very little is known; but it is on record that he constructed a subaqueous boat, which he exhibited before James I., which carried twelve rowers and some passengers, and further, that that monarch was so pleased with it that he sent a duplicate as a present to the grand Duke of Muscovy (Russia). The bishop discusses the matter very fully. The boat is, of course, to be watertight, all openings being sealed for the nonce by leather bags, with two sets of fastenings. The oars were to project also through leather bags, giving freedom of motion and yet excluding the water. A serious difficulty—the lack of fresh air on board—is partially slurred over; but he considers that the sailors, "by long use and custome," will practically get used to it. The raising or lowering of the vessel is to be accomplished by the lifting or depression of an enormous stone hung to its keel. He considered that the steering would be easier than on the surface, there being no contrary winds or atmospheric disturbances to interfere. The vessel is to be well manned by artisans, and children are to be born in the "ark:" one of the points specially mentioned being their inevitable astonishment when they for the first time behold the light of day at the surface, and are landed on *terra firma!* The log is not merely to be written but is to be printed on board. "Among the many conveniences of such a contrivance, it may be of very great advantage against a navy of enemies, who, by this means, may be undermined in the water and blown up."

Another old writer, Schott, in a rare and curious work, entitled "Mirabilia Mechanica," offers several schemes for submarine vessels, and gives a drawing of one with a paddle-wheel as the propelling power. The wheel, worked by men, was to work in a watertight box in the centre of the vessel, the paddles projecting below the keel. A Frenchman built a vessel of this description at Rotterdam in 1653, and publicly exhibited it. Pepys, in his "Diary," writes, on the 14th of March, 1662: "This afternoon came the German Dr. Knuffler, to discourse with us about his engine to blow up ships. We doubted not the matter of fact—it being tried in Cromwell's time—but the safety of carrying them in ships; but he do tell us that when he comes to tell the King his secret (for none but kings successively, and their heirs, must know it) it will appear of no danger at all." We have before described Fulton's submarine boat, the *Nautilus*, and his torpedo experiments in France and England; let us now follow him to the New World.

Fulton arrived in America in December, 1806, and so far from being discouraged by the apathy displayed towards his inventions in Europe, inaugurated fresh experiments, under Government sanction, a certain expenditure being authorised. An amusing account of one of his semi-public exhibitions is given by his biographer:*—"In the meantime, anxious to prepossess his countrymen with a good opinion of his project, he invited the

* C. D. Colden: "Life of Robert Fulton."

magistracy of New York and a number of citizens to Governor's Island, where were the torpedoes and the machinery with which his experiments were to be made; these, with the manner in which they were to be used and were expected to operate, he explained very fully. While he was lecturing on his blank torpedoes, which were large empty copper cylinders, his numerous auditors crowded round him. At length he turned to a copper case of the same description, which was placed under the gateway of the fort, and to which was attached a clockwork lock. This, by drawing out a pegg, he set in motion, and then said to his



LIEUT. CUSHING'S ATTACK ON THE "ALBEMARLE."

attentive audience, 'Gentlemen, this is a charged torpedo, with which, precisely in its present state, I mean to blow up a vessel; it contains one hundred and seventy pounds of gunpowder, and if I were to suffer the clockwork to run fifteen minutes, I have no doubt but that it would blow this fortification to atoms!' The circle round Mr. Fulton was very soon much enlarged, and before five of the fifteen minutes were out there were but two or three persons remaining under the gateway; some, indeed, lost no time in getting at the greatest possible distance from the torpedo with their best speed, and did not again appear on the ground till they were assured it was lodged in the magazine." Fulton, of course, displayed the utmost coolness, knowing that his torpedo could not explode till the clockwork had run its allotted time, and of course taking care that it should be stopped long before the expiration of the fifteen minutes.

On the 20th of July, 1807, he attempted to blow up with torpedoes, in the harbour of New York, a large hulk brig which had been provided for the purpose. Several unsuccessful

attempts were made at first, owing to some derangements connected with the locks of the exploding apparatus. At length, however, the explosion took place, and was a thorough success. He has left a full account of it in his own work.* Nothing was left of the brig; all that was seen in her place was a high column of water, smoke, and fragments. It showed, as Fulton always believed, that the torpedo should, if possible, be exploded *under* the vessel to be blown up. In his cool but yet enthusiastic way he says: "Should a ship of the line containing five hundred men contend with ten good row-boats, each with a torpedo and ten men, she would risk total annihilation, while the boats, under the cover of the night and quick movements, would risk only a few men out of one hundred."

Fulton, after this, lectured frequently before the members of Congress, and so favourably impressed them that a sum of 5,000 dollars was voted in aid of his experiments. One of the plans he proposed was to couple by a line two torpedoes, then letting them drift on the bow of the vessel to be destroyed, the line would catch on the cable or bows, and the torpedoes would drift towards the vessel on either side. He also proposed "block ships" of 50 or 100 tons, with cannon-proof sides and musket-proof decks (*i.e.*, virtually ironclads), to be propelled by machinery, *which was to be worked by the crew.* "On each quarter and bow she was to be armed with a torpedo fastened to a long spar, the interior end of which was to be supported and braced by ropes from the yards. . . . By means of these spars the torpedoes were to be thrust under the bottom of the vessel to be destroyed." Half the many plans proposed for torpedo warfare may be traced back to Robert Fulton at the end of the last and beginning of the present century. Among his inventions was a "cable-cutting machine," a description of which would occupy an undue amount of space in a popular work. Suffice it to say that by its means he succeeded in cutting, several feet below the surface of the water, the cable—a 14-inch one—of a vessel lying at anchor.

One of the most important experiments made at this time was his attempt, under sanction of Government, to blow up the sloop-of-war *Argus*, and the case demonstrates very clearly the ingenuity of the *defence*, and the means taken to foil the assailing torpedo. We have heard quite recently of propositions to defend a vessel by means of a kind of "crinoline," as it has been termed, a strong network, &c., surrounding the whole or a part of the vessel at some distance from it, which should prevent the torpedo from exploding near the hull. Such was actually the means devised by Commodore Rodgers, of the United States Navy, in the year 1809, and which proved entirely successful in foiling Fulton's torpedo. Colden says:—"She had a strong netting suspended from her spritsail-yard, which was anchored at the bottom; she was surrounded by spars lashed together, which floated on the surface of the water, so as to place her completely in a pen; she had grappling-irons and heavy pieces of the same metal suspended from her yards and rigging, ready to be plunged in any boat that came beneath them; she had great swords, or scythes, fastened to the ends of long spars, moving like sweeps, which unquestionably would have mowed off as many heads as came within their reach."

By these devices the torpedo-boat was unable to get near the *Argus*, while the netting,

* "Torpedo War, and Submarine Explosions" (New York, 1810). A scarce and valuable *brochure*.

anchored to the bottom of the harbour, prevented any probability of the torpedo being fired under the vessel. The Government had practically said to Fulton, "Do your best, and we'll do our best to defeat you." The experiment was not one-sided, as are so many. Fulton, far from complaining, thus wrote: "I will do justice to the talents of Commodore Rodgers. The nets, booms, kentledge, and grapnels which he arranged around the *Argus* made a formidable appearance against one torpedo-boat and eight bad oarsmen. I was taken unawares. I had explained to the officers of the navy my means of attack; they did not inform me of their means of defence. The nets were put down to the ground, otherwise I should have sent the torpedoes under them. In this situation, the means with which I was provided being imperfect, insignificant, and inadequate to the effect to be produced, I might be compared to what the inventor of gunpowder would have appeared had he lived in the time of Julius Cæsar, and presented himself before the gates of Rome with a four-pounder, and had endeavoured to convince the Roman people that by means of such machines he could batter down their walls. They would have told him that a few catapultas casting arrows and stones upon his men would cause them to retreat; that a shower of rain would destroy his ill-guarded powder; and the Roman centurions, who would have been unable to conceive the various modes in which gunpowder has since been used to destroy the then art of war, would very naturally conclude that it was a useless invention; while the manufacturers of catapultas, bows, arrows, and shields would be the most vehement against further experiments."

Torpedoes were used extensively during the civil war in America, but almost entirely for rivers or harbour defence. One of the most prominent examples was the following:—The ironclad ram *Albemarle** had been carrying all before it, till Lieutenant Cushing, a brave young officer, scarcely twenty-one years of age, took a steam-launch, equipped as a torpedo-boat, on the night of October, 1864, up the Roanoake River. He had with him thirteen men. The launch was steered directly for the ironclad, which lay at one of the wharfs of Plymouth, protected by a raft of logs extending thirty feet. The enemy's fire was at once very severe, but the torpedo-boat went bravely on, and succeeded in pressing in the logs a few feet. Cushing, in his despatch, says—"The torpedo was exploded at the same time that the *Albemarle's* gun was fired. A shot seemed to go crashing through my boat, and a dense mass of water rushed in from the torpedo, filling and completely disabling her. The enemy then continued to fire at fifteen feet range, and demanded our surrender, which I twice refused." Cushing leaped into the water and, with one of his party, made good his escape. The rest of the little crew were either captured, killed, or wounded. The object of the attack was, however, successful, and the *Albemarle* was found to be a complete wreck. Torpedoes were also employed with great effect by the Paraguayans in their war against the Brazilians in 1866.

Great are the varieties of torpedoes invented at various times in late years, and a technical description of them, which would be wearying to the reader, would fill a large volume. An ingenious kind, known as the "Lay" torpedo, after the name of its inventor,

* Such a vessel as the *Albemarle* would be scorned in England and America now-a-days, if regarded as an ironclad. But she was, of course, infinitely stronger than the wooden ships with which she had to fight.

comes from the New World. It is of cylindrical form, with conical ends, the forward cone calculated to hold a hundred pounds of some explosive substance—dynamite,* probably, being used. A forward section of the main cylinder holds a powerful gas, condensed into *liquid* form, and used as the motive power, and connected with the machinery by a valve operated by electricity. The torpedo has a cable coiled as harpoon-ropes are arranged in whaling-vessels, which may be of any length, the wires connected with the battery following its course. This instrument of destruction is entirely under the control of the operator, who may be stationed with his small portable battery on the shore or on a vessel. It is said that they have been sent out half a mile and brought back to the starting-point at a rate of twelve miles an hour, and that the rapidity and precision with which the machine obeyed the operator demonstrated them to be among the most formidable weapons ever invented for naval warfare.

These subaqueous weapons have never been used in an engagement between fleets. In an interesting essay† on the subject by Commander Noel, R.N., he recommends or proposes that four torpedo vessels should accompany a fleet, and describes their probable operations as follows:—

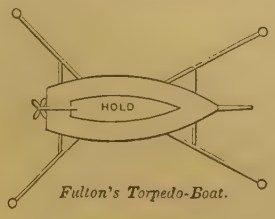
"Let us imagine ourselves, then, on board a rakish little craft, fitted for Harvey torpedo work; we can steam sixteen knots; we tow a torpedo on each quarter; and we are so admirably fitted with steel-protecting mantelets that neither officer nor man is exposed either to view or to rifle fire. Our instructions are that on the approach of a hostile force we and our three consorts are to hold ourselves in readiness to charge the enemy's line, passing through at full speed, and doing all the damage that lies in our power: these orders to be carried into effect in obedience to a preconcerted signal. The enemy is observed approaching, and apparently moving at about ten knots' speed. The torpedo vessels are let loose, and, choosing the centre of the enemy's fleet, rush on, steering for a flag-ship leading a column in line ahead. Heavy guns are fired at us as we near, but we are so small and rapid in our movements that no shot takes effect; we are reducing our distance at the rate of a mile in two and a half minutes; soon comes the time of suspense; in a second or two we are passing the flag-ship; the port torpedo is dipped—will it strike her? Suddenly a tug on the wire towing-rope, and it parts. Her bow has been protected, and our torpedo is torn away harmless. However, another mine tows on the opposite quarter, still in working order; we are in the midst of the enemy's fleet, rushing past one after another at half-minute intervals; our only chance of using our other torpedo is in breaking through the line; our commander is eminent for his skill, courage, and confidence. Little choice is given us, but he

* The explosive power of dynamite, or "giant powder," as it is known in America, is something wonderful. The writer while in California witnessed some experiments with it, which are indelibly written on his brain. A mortar was set upright in the field appropriated for the exhibition, and several pounds of ordinary powder having been rammed down, a large cannon-ball was put in and the charge fired. The ball was raised a foot or so, and then tumbled to the ground. A few *ounces* of dynamite and the same ball were placed in the mortar, and the charge exploded by concussion. The cannon-ball was projected upwards in the air several hundred feet. It will be imagined that the writer and his friends scattered in all directions, and watched very carefully the downward flight of the ball.

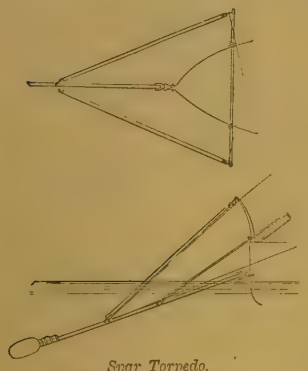
† "The Gun, Ram, and Torpedo." (Prize Essay written for the Junior Naval Professional Association, 1874.) By Commander Gerard H. U. Noel, R.N.

observes a rather great interval astern of the fourth ship. 'Starboard' is the order, and we break through under her stern; our starboard torpedo is at the same time dipped, and passes under the fifth ship. Owing to a combination of luck and good management, the torpedo takes effect and the enemy is blown up. The other torpedo vessels have thrown the enemy into considerable disorder, but none have succeeded in using their torpedoes with effect. One of them has been struck by a heavy shell and totally disabled, but the whole fleet has passed on without finding it possible to capture or sink her without losing their position in station and being left behind; the thought foremost

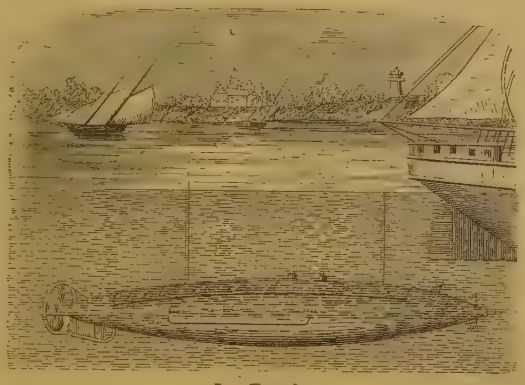
Porter Torpedo-Boat.



Fulton's Torpedo-Boat.



Spar Torpedo.
(Front and side views.)



Lay Torpedo.

DIFFERENT FORMS OF TORPEDOES.

in every captain's mind also being that the enemy's fleet is almost in contact with them, and that the moment to act has arrived.

"This is an example of an attack with 'Harvey' torpedoes from ahead and across the bow . . . In my opinion, it would invariably be rendered fruitless if the bows of the ships attacked were protected by an iron framework of the simplest description.

"But let us return to our little craft, in which we have already run the gauntlet of the hostile fleet. Having cleared the enemy with little or no damage, we look back and see our fleet of ironclads breaking through their lines, which have been so shaken by our assault. When through, our fleet re-forms and wheels for the next charge. We must be at work again; our torpedoes are replaced, and everything is in working order. This time we follow our ironclads to the charge. We are, if anything, more hopeful of success. The enemy will not see us till we are at them; our blood is warming to the work, and we feel that we have gained experience and confidence by the first charge. Pressing on, we observe the second charge of the fleet, amidst smoke, confusion, and thundering of cannon.

The enemy is prepared, and it is a case of 'Greek meeting Greek.' Our vessel is put at full speed, and, with our consorts (now reduced to two), we go at the enemy. However, in the charge that is made only one of us succeeds in exploding a torpedo, and that without much damage to the enemy; one of our consorts is run down and sunk, and we pass through, only dipping one torpedo, and that too late to take effect. The enemy are not in the steady line they were in before, and consequently we have not such an opportunity of creating disorder, and have more difficulty in manœuvring to use our weapon.

PARAGUAYAN TORPEDO BLOWING UP A BRAZILIAN IRONCLAD.

Passing on, fortune still favours us. We come across an enemy disabled, stern on to us with her ensign flying. 'At her!' is the order. Another moment and we are close to her, our torpedo in beautiful position, and the enemy helpless. Down comes her ensign, just in time; we are able to let go the torpedo so as to clear her—now a lawful prize.

"So it is that I believe a torpedo vessel will be handled in an action. It will be ticklish work; and all I can say is that the men who undertake it should be gifted with coolness and courage above their fellows, as well as with the utmost proficiency in handling their vessels."

Perhaps the most formidable *ocean-going* torpedo vessel yet constructed is the American despatch-vessel *Alarm*, designed by Admiral David Porter, of the United States Navy. It is 172 feet long, including a ram of twenty-seven feet in length. One of her special qualities is the power of launching torpedoes from almost any point, from cylinders

specially constructed for the purpose, that at the bow being thirty-two feet in length. A torpedo-boat, built by the Messrs. Yarrow, of Poplar, for the Russian Government during the late war, appears to have special merits. It is built of light steel, with what is called a "whale-back"—a semi-circular covering, which resists any ordinary shot and throws off any sea whatever. The funnel is not in the centre, but towards the side, in order not to interfere with the steersman's view nor with the torpedo boom. It has a boom which can be lowered in the water, the torpedo being submerged ten feet before it is started off on its deadly errand. And, finally, it can be projected from the stern, which gives it a splendid chance of leaving before the final explosion.

In the late Turko-Russian war torpedoes were often attached to logs of wood or clumps of brushwood, and floated into the stream of the Danube. These often attracted little attention; and when they came into contact with any obstacle the mine exploded by means of percussion, the blow being delivered by a projecting arm or other contrivance driven back upon some detonating substance within. The Harvey torpedo, one of the leading types, consists of a stout wooden casing, strengthened on the outside with iron straps, and containing a metal shell, which holds the powder charge. The largest size of this weapon measures 4 feet 6 inches in length by 2 feet in depth, and 2 feet 6 inches in width, and carries 100 lbs. of dynamite. The torpedo is fired by being brought into hugging contact with an enemy's ship, when one or other of two projecting levers acts upon an exploding bolt causing the ignition of the charge. The exploding apparatus consists of a tube containing a chemical agent and a bulb holding another. The nature of these chemicals is such that when they combine violent combustion ensues, which explodes the charge. These torpedoes are towed at the end of a long hawser, connected to a spar, so arranged that the torpedo itself, instead of following immediately in the wake or trail of the vessel towing it, diverges in the same manner that an otter float does: from which device Captain Harvey took his idea. Attached to the torpedo are two large buoys, for the purpose of supporting it when the vessel is not moving through the water, or when the towing-line is slackened. Another variety is fired by electricity.

The Whitehead, or "fish" torpedo, is a cigar-shaped steel cylinder 14 to 19 feet in length, and from 14 to 16 inches in diameter. It is sent off, requiring no crew, against the ship to be destroyed; and if one torpedo fails to deal the death-blow it can be followed up by another, or yet a third. It consists of three compartments. The head contains the explosive—say 360 lbs. of gun-cotton; the centre holds the machinery; and the tail the highly-condensed air which works the engine. The engine is about thirty-five pounds weight, and can be worked to forty horse power! The explanation of this is simply that the working pressure of the condensed air is 1,000 lbs. per square inch. The tail holds compressed air sufficient to propel the torpedo 200 yards, at a rate of twenty-five miles an hour, or 1,000 yards at the rate of seventeen miles.

The "battle of the guns" has not yet been fought; but how about the rams? They have been proved the deadliest weapons of destruction in modern times. The lessons of Lissa have been already cited in these pages; so have the lessons taught by the loss of the *Vanguard* and the *Grosser Kurfurst*. In the latter cases it was friends that struck the blow. Some of our greatest authorities consider that nothing can exceed the power of the ram of

a modern ironclad, properly applied. Admiral Touchard, of the French Navy, says: "The 'beak' (*i.e.* 'ram') is now the principal weapon in naval combats—the *ultima ratio* of maritime war." Captain Colomb, a distinguished English authority, says: "Let us just recall the fact that the serious part of a future naval attack does not appear to be the guns, but the rams." Yet again another authority, Captain Pellew, says: "Rams are the arm of naval warfare to which I attach the chief importance. In my opinion, the aim of all manœuvring and preliminary practice with the guns should be to get a fair opportunity for ramming."

CHAPTER X.

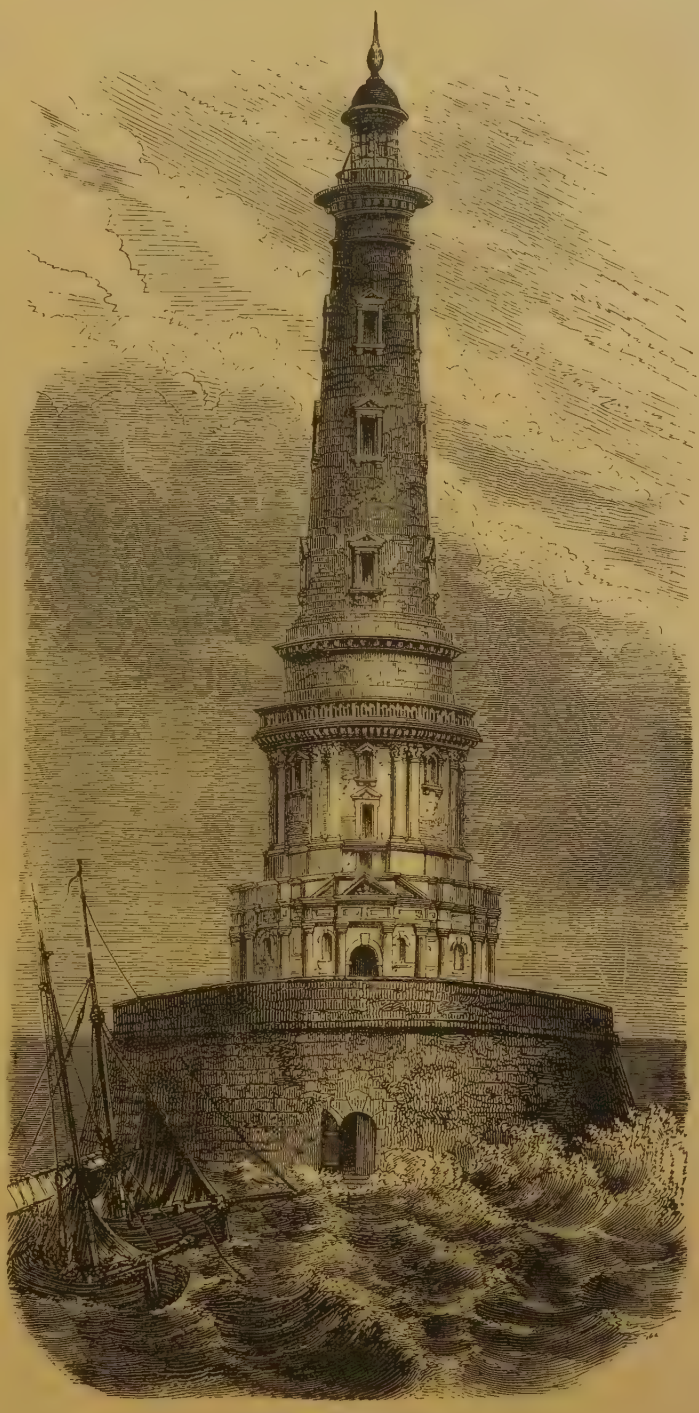
The Lighthouse and its History.

The Lighthouse—Our most noted one in Danger—The Eddystone Undermined—The Ancient History of Lighthouses—The Pharos of Alexandria—Roman Light Towers at Boulogne and Dover—Fire-beacons and Pitch-pots—The Tower of Cordouan—The First Eddystone Lighthouse—Winstanley and his Eccentricities—Difficulties of Building his Wooden Structure—Resembles a Pagoda—The Structure Swept Away with its Inventor—Another Silk Mercer in the Field—Rudyerd's Lighthouse—Built of Wood—Stood for Fifty Years—Creditable Action of Louis XIV.—Lighthouse Keeper alone with a Corpse—The Horrors of a Month—Rudyerd's Tower destroyed by Fire—Smeaton's Early History—Employed to Build the Present Eddystone—Resolves on a Stone Tower—Employment of "Dove-tailing" in Masonry—Difficulties of Landing on the Rock—Peril incurred by the Workmen—The First Season's Work—Smeaton always in the Post of Danger—Watching the Rock from Plymouth Hoe—The Last Season—Vibrations of the Tower in a Storm—Has Stood for 120 Years—Joy of the Mariner when "The Eddystone's in Sight!"—Lights in the English Channel.

ROUND the history of ships and shipping interests innumerable subjects intertwine. But for the good ship, we should not need coast fortifications, grand breakwaters, and artificial harbours, lighthouses, lifeboats, and coast-guard organisations. Just as England stands pre-eminent on the sea, so in all subsidiary points connected therewith she is fully represented. To the lighthouse and its history attention is now invited.

Not long since many an anxious eye was turned Channel-wards from Plymouth Hoe towards that group of rocks, on one of which the famous Eddystone Light stood—and happily, still stands—for the light that should have illumined the stormy waters was apparently quenched. Not till morning dawn had nearly come was a re-assuring glimmer noted in the lantern of that famed Pharos of our coasts. And there was good reason for anxiety, although the immediate occasion was a mere temporary derangement of the lighting apparatus: for the report had spread that Smeaton's greatest architectural triumph had collapsed before the power of the sea. One trembles to think what that might have meant, not merely to its few inhabitants, but to scores of sailors and owners. "Happily," said one of our leading journals, "the Eddystone is still safe, despite the terrible effects

of winds and waves, and the serious weakness of its own foundations, which was discovered a few years ago. For the tower which lights the way of the sailor into Plymouth Sound is, after all, not so secure a structure as could be desired. Built of solid masonry and with immense skill, by the clever architect from Hull who designed and carried out the work, it had yet to trust for its foundation to the rock upon which it stood. Should that give way the stone-work of the edifice might be strong enough, and yet some day fall into hopeless ruin. Strange to say, this very weakness has been self-revealed. The rock upon which the lighthouse stands, and which, of the twenty-three that comprise the group, is most exposed to the action of the sea, has been so violently attacked by what Ovid calls the 'insane waters' as to have become very seriously undermined. Gradually the waves have cut away the foundations of the stone, rising now and then against the lighthouse, and pressing against the structure with such force as to make the building itself serve the turn of a crowbar, and so, little by little, creating fissures in the foundations, and gradually preparing the way to



THE TOWER OF CORDOUAN.

the end." Many attempts have been made to obviate these evils by the removal of rock which it was supposed acted as a lever to the water, and by other means: but in vain. At length the Board of Trinity House finding their efforts futile, determined to erect another lighthouse. Meantime, a light-ship has been provided, which, in case of accident to Smeaton's tower, will be moored in the neighbourhood. A larger building is now in course of erection on an adjacent rock, which affords a more durable foundation and is less exposed to the merciless waves. It will be nearly double the height of the older structure, which was seventy-two feet high, and is being built on a principle of dovetailing, which, it is hoped and believed, will secure it against the worst fury of the sea. Think what that fury is sometimes, gentle reader! At the Skerryvore Rock they have an apparatus for registering the power of the waves per square foot surface; once recently it registered *three tons* to the foot!

The most noted lighthouse in the world was undoubtedly the Pharos of Alexandria, named from the island on which it stood. The French, Italians, and Spaniards to-day use the term almost in its original purity: thus, French for lighthouse, *phare;* Italian and Spanish, *faro.* It was commenced by the first Ptolemy, and finished about 280 B.C., the workmanship, according to all accounts, being superb. This tower of white stone was 400 feet high. It is stated by Josephus that the light, which was always kept burning on its top at night, was visible over forty miles. It is believed to have been destroyed by an earthquake, though the date of its destruction is unknown.

The Romans were the first to erect anything approaching a Pharos, or lighthouse, on our coasts. Beacon fires may have been occasionally used before; the conquerors made the matter an organised affair. On either side the Channel, at Boulogne and Dover, structures of no mean altitude were raised for this purpose. That at Boulogne is supposed to have been erected by Caligula; all vestiges of it have passed away. It was originally called *Turris Ardens,* afterwards corrupted to the *Tour d'Ordre.* From a description left by Claude Châtillon, engineer to Henry IV., it appears that it was built about a stone's throw from the edge of the cliff, above and overlooking the high tower and the castle. Its form was octagonal, with a base 192 feet in circumference. It was built of grey stone with thin red bricks between. That at Dover still exists. It occupies the highest point of the lofty rock on which the famous castle is built. This Pharos was also octagonal in outward form, being square within. It is 33 feet in diameter, and formerly about 72 feet high. On the summit three holes on the three exterior sides indicate their purposes, both for look-out and for exhibiting a light seawards.

Long after, and indeed almost down to our days, fire-beacons were far more common on exposed parts of our coasts than lighthouses. "The first idea of a lighthouse," said Faraday, "is the candle in the cottage window, guiding the husband across the water or the pathless moor." Lambarde says of the lights shown along the coast that, "Before the time of Edward III., they were made of great stacks of wood; but about the eleventh yeere of his raigne it was ordained that in our shyre (Kent) they should be high standards with their pitchpots." Such were long used.

Lighthouses in these days differ greatly in material and mode of construction. Stone, brick, cast and wrought iron, and even wood, are used, according to the necessities of the case, or the lacks of the special locality where they are placed. In the case of some iron

lighthouses they are literally screwed into the rock or hard ground. Seventy of this class of structures now exist in the United States.

One of the most remarkable early lighthouses is the Tower of Cordouan, situated on a ledge of rocks at the mouth of the Garonne, which empties into the Bay of Biscay. It was commenced in 1584, and completed in 1610, by Louis de Foix.

The ledge is about 3,000 feet long and 1,500 feet broad, and is bare at low water. It is surrounded by detached rocks, upon which the sea breaks with terrific violence. There is but one place of access, which is a passage 300 feet wide, where there are no rocks, and which leads to within 600 feet of the tower. The tower was a circular cone, rising from its rocky base to a height of 162 feet. It is now shorter. The apartments of the tower are highly ornamented, consisting of four storeys, all of different orders of architecture, and adorned with busts and statues of Kings of France and heathen gods. The basement, or lower storey, appears to have been intended as a store-room; the second storey is called the "King's apartments;" the third is a chapel; and the fourth consists of a dome supported by columns, a kind of lower lantern; above this was originally a lantern formed of a stone dome and eight columns. In the upper lantern a fire of oak wood was kept burning for about a hundred years, when, in 1717, the fire having weakened the stone supports by calcining them, the upper lantern was taken down, and the light was kept up in the lower lantern. As it did not show well there, an iron lantern was erected in 1727 above this, in the place of the old stone lantern, and coal was then used for fuel instead of wood.

The following history of the Eddystone is largely derived from one of Mr. Samuel Smiles' graphic and learned works.*

In 1696, Mr. Henry Winstanley (a mercer and country gentleman), of Littlebury, in the county of Essex, obtained the necessary powers to erect a lighthouse on the Eddystone. That gentleman seems to have possessed a curious mechanical genius, which first displayed itself in devising sundry practical jokes for the entertainment of his guests. Smeaton tells us that in one room there lay an old slipper, which, if a kick was given it, immediately raised a ghost from the floor; in another the visitor sat down upon a chair, which suddenly threw out two arms and held him a fast prisoner; whilst, in the garden, if he sought the shelter of an arbour, and sat down upon a particular seat, he was straightway set afloat in the middle of the adjoining canal. These tricks must have rendered the house at Littlebury a somewhat exciting residence for the uninitiated guest. The amateur inventor exercised the same genius, to a certain extent, for the entertainment of the inhabitants of the metropolis, and at Hyde Park Corner he erected a variety of *jets d'eau*, known by the name of Winstanley's Waterworks, which he exhibited at stated times at a shilling a head.

This whimsicality of the man in some measure accounts for the oddity of the wooden building erected by him on the Eddystone Rock; and it is matter of surprise that it should have stood the severe weather of the English Channel for several seasons. The building was begun in the year 1696, and finished in four years. It must necessarily have been a work attended with great difficulty as well as danger, as operations could

* "The Life of Smeaton," as incorporated in his "Lives of the Engineers."

only be carried on during fine weather, when the sea was comparatively smooth. The first summer was wholly spent in making twelve holes in the rock, and fastening twelve irons in them, by which to hold fast the superstructure. "Even in summer," Winstanley says, "the weather would at times prove so bad that for ten or fourteen days together the sea would be so raging about these rocks, caused by out-winds and the running of the ground seas coming from the main ocean, that although the weather should seem and be most calm in other places, yet here it would mount and fly more than two hundred feet, as has been so found since there was lodgment on the place, and therefore all our works were constantly buried at those times, and exposed to the mercy of the seas."

The second summer was spent in making a solid pillar, twelve feet high and fourteen feet in diameter, on which to build the lighthouse. In the third year all the upper work was erected to the vane, which was eighty feet above the foundation. In the midsummer of that year Winstanley ventured to take up his lodging with the workmen in the light-house; but a storm arose, and eleven days passed before any boats could come near them. During that period the sea washed in upon Winstanley and his companions, wetting all their clothing and provisions, and carrying off many of their materials. By the time the boats could land, the party were reduced almost to their last crust; but, happily, the building stood, apparently firm. Finally, the light was exhibited on the summit of the building, on the 14th of November, 1698.

The fourth year was occupied in strengthening the building round the foundations, making all solid nearly to a height of twenty feet, and also in raising the upper part of the lighthouse forty feet, to keep it well out of the wash of the sea. This timber erection, when finished, somewhat resembled a Chinese pagoda, with open galleries and numerous fantastic projections. The main gallery, under the light, was so wide and open that an old gentleman who remembered both Winstanley and his lighthouse, afterwards told Smeaton that it was possible for a six-oared boat to be lifted up on a wave and driven clear through the open gallery into the sea on the other side. In the perspective print of the lighthouse, published by the architect after its erection, he complacently represented himself as fishing out of the kitchen window!

When Winstanley had brought his work to completion, he is said to have expressed himself so satisfied as to its strength that he only wished he might be there in the fiercest storm that ever blew. In this wish he was not disappointed, though the result was the reverse entirely of the builder's anticipations. In November, 1703, Winstanley went off to the lighthouse to superintend some repairs which had become necessary, and he was still in the place with the light-keepers, when, on the night of the 26th, a storm of unparalleled fury burst along the coast. As day broke on the morning of the 27th, people on shore anxiously looked in the direction of the rock to see if Winstanley's structure had withstood the fury of the gale, but not a vestige of it remained. The lighthouse and its builder had been swept completely away.

The building had, in fact, been deficient in every element of stability, and its form was such as to render it peculiarly liable to damage from the violence both of wind and water. "Nevertheless," as Smeaton generously observes, "it was no small degree of heroic merit in Winstanley to undertake a piece of work which had before

been deemed impracticable, and, by the success which attended his endeavours, to show mankind that the erection of such a work was not in itself a thing of that kind." He may, indeed, be said to have paved the way for the more successful enterprise of Smeaton himself; and its failure was not without its influence in inducing that great mechanic to exercise the care which he did, in devising a structure that should withstand the most violent sea on the south coast. Shortly after Winstanley's lighthouse had been swept away, the *Winchelsea*, a richly laden homeward-bound Virginian, was wrecked on

WINSTANLEY'S LIGHTHOUSE.

RUDYERD'S LIGHTHOUSE.

the Eddystone Rock, and almost every soul on board perished; so that the erection of a lighthouse upon the dangerous reef remained as much a necessity as ever.

Mr. Smiles graphically describes the coming architect of the period. He did not, however, come from the class of architects or builders, or even of mechanics; and as for the class of engineers, it had not even yet sprung into existence. The projector of the next lighthouse for the Eddystone was again a London mercer, who kept a silk shop on Ludgate Hill. John Rudyerd—for such was his name—was, however, a man of unquestionable genius, and possessed of much force of character. He was the son of a Cornish labourer, whom nobody would employ—his character was so bad; and the rest of the family were no better, being looked upon in their neighbourhood as "a worthless set of ragged

beggars." John seems to have been the one sound chick in the whole brood. He had a naturally clear head and honest heart, and succeeded in withstanding the bad example of his family. When his brothers went out pilfering, he refused to accompany them, and hence they regarded him as sullen and obstinate. They ill-used him, and he ran away. Fortunately he succeeded in getting into the service of a gentleman at Plymouth, who saw something promising in his appearance. The boy conducted himself so well in the capacity of a servant, that he was allowed to learn reading, writing, and accounts; and he proved so quick and intelligent, that his kind master eventually placed him in a situation where his talents could have better scope for exercise than in his service, and he succeeded in thus laying the foundation of the young man's success in life.

We are not informed of the steps by which Rudyerd marked his way upward, until we find him called from his silk-mercer's shop to undertake the rebuilding of the Eddystone Lighthouse. But it is probable that by this time he had become well known for his mechanical skill in design, if not in construction, as well as for his thoroughly practical and reliable character as a man of business; and that for these reasons, amongst others, he was selected to conduct this difficult and responsible undertaking.

After the lapse of about three years from the destruction of Winstanley's fabric, the Brothers of the Trinity, in 1706, obtained an Act of Parliament enabling them to rebuild the lighthouse, with power to grant a lease to the undertaker. It was taken by one Captain Lovet for a period of ninety-nine years, and he it was that found out and employed Rudyerd. His design of the new structure was simple but masterly. He selected the form that offered the least possible resistance to the force of the winds and the waves, avoiding the open galleries and projections of his predecessor. Instead of a polygon he chose a cone for the outline of his building, and he carried up the elevation in that form. In the practical execution of the work he was assisted by two shipwrights from the king's yard at Woolwich, who worked with him during the whole time he was occupied in the erection.

The main defect of the lighthouse consisted of the faultiness of the material of which it was built; for, like Winstanley's, it was of wood. The means employed to fix the work to its foundation proved quite efficient; dove-tailed holes were cut out of the rock, into which strong iron bolts or branches were keyed, and the interstices were afterwards filled with molten pewter. To these branches were firmly fixed a crown of squared oak balks, across these a set of shorter balks, and so on till a basement of solid wood was raised, the whole being firmly fitted and tied together with tre-nails and screw-bolts. At the same time, to increase the weight and vertical pressure of the building, and thereby present a greater resistance to any disturbing forces, Rudyerd introduced numerous courses of Cornish moorstone, as well jointed as possible, and cramped with iron. It is not necessary to follow the details of the construction further than to state that outside the solid timber and stone courses strong upright timbers were fixed, and carried up as the work proceeded, binding the whole firmly together. Within these upright timbers the rooms of the lighthouse were formed, the floor of the lowest—the store-room—being situated twenty-seven feet above the highest side of the rock. The upper part of the building comprehended four rooms, one above another, chiefly formed by the upright outside timbers, scarfed—that is, the ends overlapping, and firmly fastened together. The whole building was, indeed, an

admirable piece of ship-carpentry, excepting only the moorstone, which was merely introduced, as it were, by way of ballast. The outer timbers were tightly caulked with oakum, like a ship, and the whole was payed over with pitch. Upon the roof of the main column Rudyerd fixed his lantern, which was lit by candles, seventy feet above the highest side of the foundation, which was of a sloping form. From its lowest side to the summit of the ball fixed on the top of the building was ninety-two feet, the timber column resting on a base of twenty-three feet four inches. "The whole building," says Smeaton, "consisted of a simple figure, being an elegant frustum of a cone, unbroken by any projecting ornaments, or anything whereon the violence of the storm could lay hold." The structure was completely finished in 1709, though the light was exhibited in the lantern as early as the 28th of July, 1706.

That the building erected by Rudyerd was, on the whole, well adapted for the purpose for which it was intended, was proved by the fact that it served as a lighthouse for ships navigating the English Channel for nearly fifty years. The lighthouse was at first attended by only two men. It happened, however, that one of the keepers was taken ill and died, and only one man remained to do the work. He signalled for assistance, but the weather prevented any boat from reaching the rock for nearly a month. What, then, was the surviving man to do with the dead body of his comrade? The thought struck him that if he threw it into the sea, he might be charged with murder. He determined, therefore, to keep the corpse in the lighthouse until a boat should come off from the shore. At last a boat came off, but the weather was still so rough that a landing was only effected with the greatest difficulty. By this time the effluvia from the corpse was overpowering; it filled the apartments of the lighthouse, and the men were compelled to dispose of the body by throwing it into the sea. In future three men were always employed.

The chief defect of Rudyerd's building consisted of the material of which it was constructed; the necessary lights and heat proceeding from them made it a very dangerous structure. "The immediate cause of the accident by which the lighthouse was destroyed was never ascertained. All that became known was, that about two o'clock in the morning of the 2nd December, 1755, the light-keeper on duty, going into the lantern to snuff the candles, found it full of smoke. The lighthouse was on fire! In a few minutes the wooden fabric was in a blaze. Water could not be brought up the tower by the men in sufficient quantities to be thrown with any effect upon the flames raging above their heads; the molten lead fell down upon the light-keepers, into their very mouths,* and they fled from room to room, the fire following them down towards the sea. From Cawsand and Rame Head the unusual glare of light proceeding from the Eddystone was seen in the early morning, and fishing-boats, with men, went off to the rock, though a fresh east wind was blowing. By the time they reached it, the light-keepers had not only been driven from all the rooms, but, to protect themselves from the molten lead and red-hot bolts and falling timbers, they had been compelled to take shelter under a ledge of the rock on its eastern side, and after considerable delay the poor fellows were

* It appears that a post-mortem examination of one of the light-keepers who died from injuries received during the fire took place some thirteen days after its occurrence, and a flat oval piece of lead some seven ounces in weight was taken out of his stomach, having proved the cause of his death.

taken off, more dead than alive. And thus was Rudyerd's lighthouse also completely destroyed." The Eddystone rocks being in such an exposed place, right in the way of so much shipping, it was resolved at once to rebuild the lighthouse.

Previous to the date of the destruction of Rudyerd's timber building, Captain Lovet, the former lessee of the lighthouse, had died, and his interest in it had been acquired by Mr. Robert Weston and two others. Weston immediately applied to the Earl of Macclesfield, President of the Royal Society, who strongly recommended John Smeaton, then away in the north. Weston immediately wrote to him, but Smeaton, thinking apparently that it only referred to some repairs required in the building, declined to come up, unless there was to be some degree of permanency in his engagement. The answer he received was to the effect that the building was no more; that it must be rebuilt; and concluded with the words, "thou art the man to do it."

The life of Smeaton is one of the most interesting to be found among "The Lives of the Engineers." He was born near Leeds, on the 8th of June, 1724, his father being a respectable attorney, and he received an excellent education. "Young Smeaton," says Mr. Smiles, "was not much given to boyish sports, early displaying a thoughtfulness beyond his years. Most children are naturally fond of building up miniature fabrics, and perhaps still more so of pulling them down. But the little Smeaton seemed to have a more than ordinary love of contrivance, and that mainly for its own sake. He was never so happy as when put in possession of any cutting tool, by which he could make his little imitations of houses, pumps, and windmills. Even whilst a boy in petticoats, he was continually drawing circles and squares, and the only playthings in which he seemed to take any real pleasure were his models of things that would 'work.' When any carpenters or masons were employed in the neighbourhood of his father's house, the inquisitive boy was sure to be among them, watching the men, observing how they handled their tools, and frequently asking them questions. His life-long friend, Mr. Holmes, who knew him in his youth, has related, that having one day observed some millwrights at work, shortly after, to the great alarm of his family, he was seen fixing something like a windmill on the top of his father's barn. On another occasion, when watching some workmen fixing a pump in the village, he was so lucky as to procure from them a piece of bored pipe, which he succeeded in fashioning into a working pump that actually raised water. His odd cleverness, however, does not seem to have been appreciated; and it is told of him that amongst other boys he was known as 'Fooly Smeaton,' for though forward enough in putting questions to the workpeople, amongst boys of his own age he was remarkably shy, and, as they thought, stupid." He made great progress at the Leeds Grammar School in geometry and arithmetic, still carrying on his mechanical studies at home. It happened one day that some mechanics came into the neighbourhood to erect a "fire-engine," as the steam-engine was then called, for pumping water from the Garforth coal mines. Smeaton watched their operations, and thereupon commenced the erection of a miniature engine at home, provided with pumps and other apparatus, which he succeeded in getting to work before the colliery engine was ready. He immediately set it to work on one of his father's fish-ponds, which he succeeded in pumping completely dry, killing all the fish, much to his father's annoyance. By the time he had arrived at his fifteenth year, he had contrived to make a turning-lathe, on

which he turned wood and ivory, making little presents of boxes and other articles for his friends. His father had destined young Smeaton for the law, but at last consented to his son's wish to become a mathematical instrument maker. The son came to London, and was soon enabled to earn enough for his own maintenance. He did not, however, live a mere workman's life, but frequented the society of educated men, and was a regular attendant at the meetings of the Royal Society. We find him at the age of twenty-six reading papers before that most learned society. He had already attempted improvements in the mariner's compass; had invented a machine for measuring the amount of "way" on a ship at sea; and designed improvements in the air-pump, in ships' tackle, and in water and wind-mills. He had already acquired an honourable reputation as a scientific engineer when the question of rebuilding the Eddystone Lighthouse arose.

This afforded Smeaton a grand opening for advancement, and as soon as some preliminaries were arranged, he came to town, where he studied the subject in its entirety. He soon came to the conclusion that stone was the only material to employ in the construction of a lighthouse, contrary to the opinion of the Brethren of the Trinity House, who had faith in wood, and that only. He also devised a system of dovetailing, then scarcely known in masonry, though common enough in carpentry. All these investigations were made before Smeaton had even paid a visit to the exposed site on which the lighthouse was to be built. It was not till March, 1756, that he set out from London to Plymouth, a journey which occupied him six days, on account of the badness of the roads. At Plymouth he met Josias Jessop, to whom he had been referred for information as to the previous lighthouse. Jessop was then a foreman of shipwrights in the dockyard, and a first-class draughtsman, full of ingenuity and mechanical knowledge. Smeaton was very anxious to go out to the rocks at once; but the sea was so heavy that no opportunity occurred till the 2nd of April, when they were able to reach them. The sea was breaking over the landing-place with such violence that there was no possibility of landing. All that the enthusiastic engineer could do was to view the cone of bare rock—the mere crest of the mountain whose base was laid so far in the sea-deeps beneath. Three days later another voyage was made, and he was enabled to land on the site of his future triumph. He stayed there more than two hours, when he was compelled by the roughness of the sea to leave the rock. Several subsequent trials were unsuccessful. On the 22nd of the same month, after a lapse of seventeen days, Smeaton was able to effect his second landing at low water. After a further inspection, the party retreated to their sloop, which lay off until the tide had fallen, when Smeaton again landed, and the night being perfectly still, he says, "I went on with my business till nine in the evening, having worked an hour by candlelight." The following day he again landed, and pursued his operations until interrupted by the ground-swell, which sent the surf and waves high upon the reef, and the wind rising, the sloop was forced to put for Plymouth. This is, as we shall see, but a sample of the difficulties attending the actual construction of the tower. Lord Ellesmere said of him that "bloody battles had been won, and campaigns conducted to a successful issue, with less of personal exposure to physical danger on the part of the commander-in-chief, than was constantly encountered by Smeaton during the greater part of those years in which the lighthouse was in course of erection. In all works of

danger he himself led the way—was the first to spring upon the rock and the last to leave it; and by his own example he inspired with courage the humble workmen engaged in carrying out his plans; who, like himself, were unaccustomed to the special terrors of the scene."*

On his return to town, after several other visits, when he arranged for the formation of a better landing-place, he made his report to the proprietors, and was fully authorised to proceed with the design. He accordingly proceeded to make a careful model of the lighthouse as he intended it to be built. This having been approved by the proprietors and by the Lords of the Admiralty, the engineer set out for Plymouth, arranging at Dorchester, on his way, for a supply of Portland stone, of which it was finally determined that the lighthouse should be mainly constructed. Artificers and foremen were engaged; vessels provided for the transport of men and material, and Mr. Jessop was appointed general assistant, or as it is now termed, Resident Engineer. Mr. Smeaton fixed the centre, and laid down the lines on the afternoon of the 3rd of August, 1756, and from that time the work proceeded, though with many interruptions from bad weather and heavy seas. At best, six hours' work was all that could be performed at one time, and when it was possible the men worked by torchlight. One principal object of the first season was to get the dovetail recesses cut out of the rock for the reception of the foundation-stones. The *Neptune* buss was employed as a store-ship, and rode at anchor a convenient distance from the rock in about twenty fathoms of water. For many days the men could not land from her, and even had they been able to do so, must have been washed off the rock, unless lashed to it. At such times the provisions ran short, no boat being able to come off from Plymouth. Towards the end of October, the yawl riding at the stern of the buss broke loose by stress of weather and was lost. Smeaton was very anxious to finish the boring of the foundation-holes during that season, and the men still persevered when the weather gave the slightest chance, although sometimes only able to labour two hours out of the twenty-four.

On the completion of the work at the end of November, the party prepared to return to the yard on shore. The voyage proved most dangerous. Not being able, in consequence of the gale that was blowing, to make Plymouth Harbour, the *Neptune* was steered for Fowey, on the coast of Cornwall. The wind rose higher and higher, until it blew quite a storm; and in the night, Mr. Smeaton, hearing a sudden alarm and clamour amongst the crew overhead, ran upon deck in his shirt to ascertain the cause. It was raining hard, and quite a hurricane was raging. "It being dark," he says, "the first thing I saw was the horrible appearance of breakers almost surrounding us; John Bowden, one of the seamen, crying out, 'For God's sake, heave hard at that rope if you mean to save your lives!' I immediately laid hold of the rope at which he himself was hauling as well as the other seamen, though he was also managing the helm. I not only hauled with all my strength, but called to and encouraged the workmen to do the same thing." Their sails were carried away or torn to ribbons, while the sea could be heard beating on the rocks, though nothing of the coast could be seen. Fortunately the vessel obeyed her helm, and they put to sea again. At daybreak they found themselves out of sight of land, and

* "Essays on Engineering."

driving for the Bay of Biscay. Wearing ship, they stood once more for the coast, and before night sighted the Land's End. Finally, after having been blown to sea for four days, they came to anchor in Plymouth Sound, much to their own joy and that of their friends.

Winter was very fully occupied in dressing stones at the yards ashore for next season's work. Mr. Smeaton himself laid all the lines on the workshop floor in chalk, in order to insure the greatest possible accuracy in fitting. Nearly 450 tons of stone were thus dressed by the time the weather was sufficiently favourable to continue operations on the rock. During one of his visits to the quarries, a severe storm of thunder and lightning occurred, by which the spire of Lostwithiel Church was shattered, and this turned his attention to the necessity of protecting his lighthouse in some way from the similar danger to which it would be exposed. Franklin had just before published his mode of protecting tall buildings by conductors, and Smeaton decided to adopt his plan. The work of building fairly commenced in the summer of 1757, the first stone, of two and a quarter tons weight, being in its place on the morning of Sunday, the 12th of June. By the evening of the following day the first course of four stones was laid, these being all required from the sloping nature of the Eddystone Rock. The actual diameter of the tower itself kept increasing until it reached the upper level of the rock. Thus the second course consisted of thirteen pieces, the third of twenty-five, and so on. The workmen were sometimes interrupted by ground-swells and heavy seas, which kept them off the rock for days together, but, at length, on the sixth course being laid, it was found that the building had been raised above the average wash of the sea, and thenceforward the progress of the work was much more rapid. The stones, when brought off from the vessels, were all landed in their proper order, and everything was done to facilitate the rapid progress of the work. Smeaton superintended the construction of nearly the whole building, and was ever foremost in the post of danger. Whilst working at the rock on one occasion, an accident occurred which might well have proved more serious in its results. "The men were about to lay the centre stone of the seventh course, on the evening of the 11th of August, when Mr. Smeaton was enjoying the limited promenade afforded by the level platform of stone which had, with so much difficulty, been raised; but, making a false step into one of the cavities made for the joggles, and being unable to recover his balance, he fell from the brink of the work down among the rocks on the west side. The tide being low at the time, he speedily got upon his feet, and at first supposed himself little hurt, but shortly after he found that one of his thumbs had been put out of joint. He reflected that he was fourteen miles from land, far from a surgeon, and that uncertain winds and waves lay between. He therefore determined to reduce the dislocation at once; and, laying fast hold of the thumb with his other hand, and giving it a violent pull, it snapped into its place again, after which he proceeded to fix the centre stone of the building." The work now proceeded steadily, occasional damage being done by the heavy seas washing over the stones, tools, and materials.

The following winter was very tempestuous, and the floating light-ship, stationed about two miles from the rock, was driven from its moorings, though it eventually reached harbour in safety. It was the 12th of May before Smeaton, anxious to see how his tower

THE EDDYSTONE LIGHTHOUSE.

had stood the winter storms, could land on the rock. He was delighted to find that the entire work remained intact, as he had left it. At the end of this season, the twenty-ninth course of stones had been laid, and the apartments of the lighthouse-keepers commenced. While living at Plymouth, Smeaton used to come out upon the Hoe* with his telescope and, from the spot where the Spanish Armada was first descried making for the English coast, peer out towards the rocks on one of which his lighthouse stood. "There were still many who persisted in asserting that no building erected of stone could possibly stand upon the Eddystone; and again and again the engineer, in the dim grey of the morning, would come out and peer through his telescope at his deep-sea lamp-post. Sometimes he had to wait long, until he could see a tall white pillar of spray shoot up into the air. Thank God! it was still safe. Then, as the light grew, he could discern his building, temporary house and all, standing firm amidst the waters; and, thus far satisfied, he could proceed to his workshops, his mind relieved for the day."

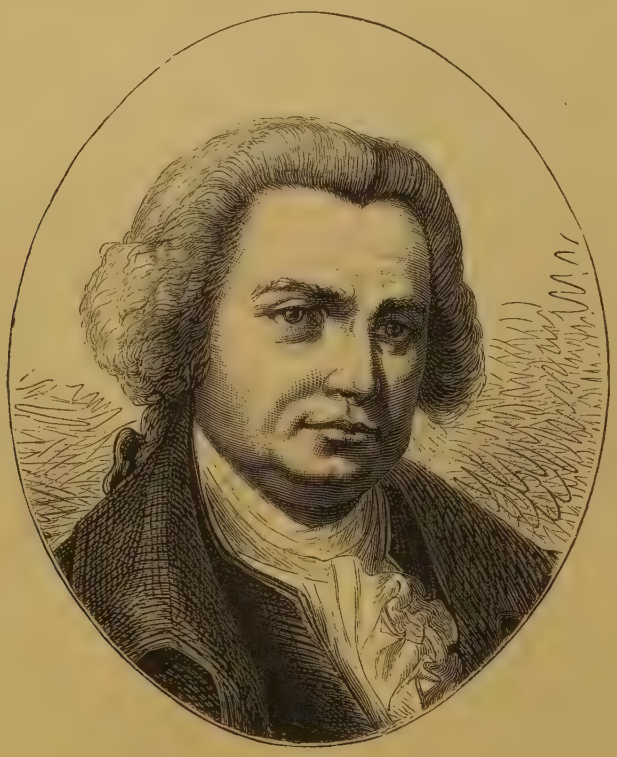
The winter following the third season was spent by Smeaton in London, where he made the designs for the cast and wrought iron and copper works of the lantern, the glass, and rails of the balcony, which were carried out under his own eye. The ensuing season proved so stormy that it was the 5th of July before a landing could again be made on the rock, but from this point the work proceeded with such rapidity that in thirteen days two entire rooms were erected, and by the 17th of August the last pieces of the corona were set, and the forty-sixth and last course of masonry laid, bringing the tower to its specified height of seventy feet. "The last mason's work done was the cutting out of the words '*Laus Deo*' upon the last stone set over the door of the lantern. Round the upper store-room upon the course under the ceiling, had been cut, at an earlier period, 'Except the Lord build the house, they labour in vain that build it.' The iron-work of the balcony and the lantern were next erected, and, over all, the gilt ball, the screws of which Smeaton fixed with his own hands, 'that in case,' he says, 'any of them had not held quite tight and firm, the circumstance might not have been slipped over without my knowledge.' Moreover, this piece of work was dangerous as well as delicate, being performed at a height of some hundred and twenty feet above the sea. Smeaton fixed the screws while standing on four boards nailed together, resting on the cupola; his assistant, Roger Cornthwaite, placing himself on the opposite side, so as to balance his weight whilst he proceeded with the operation. Smeaton worked with the men in fitting the lantern and interior arrangements. The light was first exhibited on the night of the 16th of October, 1759. About three years after its completion, one of the most terrible storms ever known raged for days along the south-west coast; and though incalculable ruin was inflicted upon harbours and shipping by the hurricane, all the damage done to the lighthouse was repaired by a little gallipot of putty."

Whatever may be the truth regarding the foundations of the Eddystone, Smeaton's lighthouse did good work for considerably over a century. Sometimes when the sea rolled in with more than usual fury the lighthouse was enveloped in spray, and when struck by a strong wave, the central portion shot up the perpendicular shaft and leapt quite over the

* The Hoe is an elevated promenade, forming the sea-front of Plymouth, and overlooking the Sound.

lantern, but soon its brilliant light shone forth again, a warning and a guide to the mariner. When a wave hurled itself upon the lighthouse, the report of the shock was like a cannon, and a tremor passed through the building. At first the lighthouse-keepers were afraid for their lives. The year after the completion of the tower, a terrible storm raged, the sea dashing over the lighthouse so that those inside dared not open the lantern door, nor any other, for even an instant.

After a century and a quarter's useful service it was found necessary to replace this

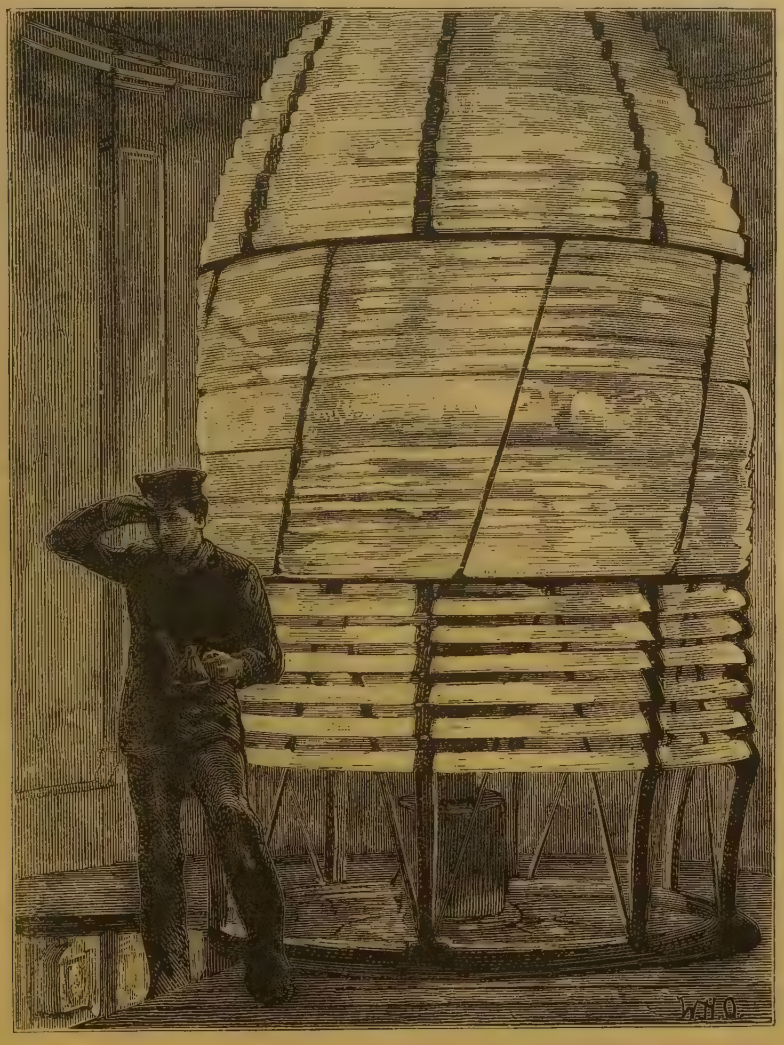


PORTRAIT OF SMEATON.

famous lighthouse, owing to the rock on which it stood being no longer able to support its burden. The new lighthouse is some fifty yards distant from the original site; it took four years to build, and is constructed with no less than 4,668 tons of granite, as against 998 tons employed in Smeaton's building. The stump is all that now remains of Smeaton's ever-memorable erection, the upper part having been re-erected on Plymouth Hoe.

"Many a heart," says Mr. Smiles, "has leapt with gladness at the cry of 'The Eddystone in sight!' sung out from the maintop. Homeward-bound ships, from far-off ports, no longer avoid the dreaded rock, but eagerly run for its light as the harbinger of safety. It might even seem as if Providence had placed the reef so far out at sea as the foundation for a beacon such as this, leaving it to man's skill and labour to finish His work. On entering the English Channel from the west and the south, the cautious navigator feels

his way by early soundings on the great bank which extends from the Channel into the Atlantic, and these are repeated at fixed intervals until land is in sight. Every fathom nearer shore increases a ship's risks, especially on dark nights. The men are on the look-out, peering anxiously into the dark, straining the eye to catch the glimmer of a light, and



INTERIOR OF THE LIGHT-CHAMBER OF THE EDDYSTONE.

when it is known that 'the Eddystone is in sight!' a thrill runs through the ship, which can only be appreciated by those who have felt or witnessed it after long months of weary voyaging.

"By means of similar lights, of different arrangements and of various colours, fixed and revolving, erected upon rocks, islands, and headlands, the British Channel is now lit up along its whole extent, and is as safe to navigate in the darkest night as in the brightest

sunshine. The chief danger is from fogs which alike hide the lights by night and the land by day. Some of the homeward-bound ships entering the Channel from North American ports first make the St. Agnes Light, on the Scilly Isles, revolving once a minute, at a height of 138 feet above high water. But most Atlantic ships keep further south in consequence of the nature of the soundings about the Scilly Isles; and hence they oftener make the Lizard Lights first, which are visible about twenty miles off.

"From this point the coast retires, and in the bend lie Falmouth (with a revolving light on St. Anthony's Point), Fowey, the Looes, and Plymouth Sound and Harbour; the coast line again trending southward until it juts out into the sea, in the bold craggy bluffs of Bolt Head and Start Point, on the last of which is another house with two lights—one, revolving, for the Channel, and another, fixed, to direct vessels inshore clear of the Skerries Shoal. But between the Lizard and Start Point, which form the two extremities of this bend in the land of Cornwall and Devonshire, there lies the Eddystone Rock and Lighthouse, standing fourteen miles out from the shore, almost directly in front of Plymouth Sound and in the line of coasting vessels steaming or beating up Channel.

"On the south are seen the three Croquet Lights on the Jersey side; and on the north the two fixed lights on Portland Bill. The west is St. Catherine's, a brilliant fixed light on the extreme south point of the Isle of Wight. Next are the lights exhibited on the Nab, and then the single fixed light exhibited on the Ower vessel. Beachy Head, on the same line, exhibits a powerful revolving light 285 feet above high water, its interval of greatest brilliancy occurring every two minutes. Then comes Dungeness, exhibiting a fixed red light of great power, situated at the extremity of the low point of Dungeness beach. Next are seen Folkestone, and then Dover Harbour Lights, whilst on the south are the flash light, recently stationed on the Verne Bank; and further up Channel, on the French coast, is seen the brilliant revolving light on Cape Grisnez. The Channel is passed with the two South Foreland Lights, one higher than the other, on the left; and the Downs are entered with the South Sandhead floating light on the right; and when the Gull and the North Sandhead floating lights have been passed on the one hand, and North Foreland on the other, then the Tongue, the Prince's Channel, and the Girdler are passed." The Nore Light passed, the navigation of the Thames commences.

CHAPTER XI.

THE LIGHTHOUSE (*continued*).

The Bell Rock—The good Abbot of Arberbrothok—Ralph the Rover—Rennie's grand Lighthouse—Perils of the Work—Thirty-two Men apparently doomed to Destruction—A New Form of Outward Construction—Its successful Completion—The Skerryvore Lighthouse and Alan Stevenson—Novel Barracks on the Rock—Swept Away in a Storm—The Unshapely Seal and Unfortunate Cod—Half-starved Workmen—Out of Tobacco—Difficulties of Landing the Stones—Visit of M. de Quatrefages to Héhaux—Description of the Lighthouse Exterior—How it Rocks—Practice *versus* Theory—The Interior—A Parisian Apartment at Sea.

SOME eleven miles eastward from the mainland of Scotland, near the entrances to the Firths of Forth and Tay, lies an extensive ledge of very dangerous rocks, nearly two miles in length. This sunken reef was a source of much peril to the unfortunate sailors

driven too near its nearly hidden dangers, and early in the fourteenth century the Abbot of Arbroath, or Arberbrothok, caused a bell to be placed upon the principal rock, so that—

"When the Rock was hid by the surge's swell,
The mariners heard the warning bell;
And then they knew the perilous Rock,
And blessed the Abbot of Arberbrothok."

Southey has, in his ballad of "The Inchcape Rock," immortalised the tradition* that a notorious pirate cut the bell from the rock—

"Down sank the bell with a gurgling sound,
The bubbles arose and burst around;
Quoth Sir Ralph, 'The next who comes to the Rock,
Won't bless the Abbot of Arberbrothok."

And so the rover sailed away, and grew rich with plundered store, till at length he thought of Scotland once again, and turned his vessel's head for home. He approached her coasts in haze and fog, and knew he could not be far from the rocky shore.

"They hear no sound, the swell is strong;
Though the wind hath fallen they drift along,
Till the vessel strikes with a shivering shock,—
'Oh, Christ! it is the Inchcape Rock!'

"Sir Ralph the Rover tore his hair;
He curst himself in his despair;
The waves rush in on every side,
The ship is sinking beneath the tide."

Nothing was done to replace the bell or set a beacon on the reef until the beginning of the present century, when, after many plans had been discussed, John Rennie was ordered by the Board of Commissioners to examine the site and report on the subject generally. He recommended a substantial stone lighthouse, similar to that on the Eddystone. Although the Inchcape Rock was not so long uncovered by the tide as the former, after a few courses had been laid, there would be no greater delay in completing the building. The Commissioners obtained from Parliament the requisite powers in 1806; Rennie was appointed engineer, with Robert Stevenson as assistant engineer.

The whole of the year 1807 was occupied in constructing the necessary vessels for conveying the stones, and in erecting suitable machinery and building shops at Arbroath, which was fixed upon as the most convenient point on the coast for carrying on the land operations. Some progress was made on the rock itself, where a smith's forge was erected and a temporary beacon raised, while a floating light, fitted up on an old fishing-boat, was anchored near the reef until the lighthouse could be completed. During the short

* The following is the tradition from an ancient source:—"By the east of the Isle of May, twelve miles from all land in the German Sea, lyes a great hidden rock, called Inchcape, very dangerous to the navigators, because it is overflowed every tide. It is reported that, in old times, there was upon the said rock a bell, fixed upon a tree or timber, which rang continually, being moved by the sea, giving notice to the saylors of the danger. This bell or clocke was put there by the Abbot of Arberbrothok, and being taken down by a sea-pirate, a year thereafter he perished upon the same rock, with ship and goodes, by the righteous judgment of God." (Stoddart's "Remarks on Scotland.")

period in which the rocks were uncovered or unexposed to the fury of the waves, some progress was made with the excavations for the foundations. The dangerous nature of the employment may be illustrated by the following brief account of an accident which happened to the workmen on the 2nd of September, before the excavation for the first course of stones had been completed. An additional number of masons had that morning come off from Arbroath in the tender named the *Smeaton*, in honour of the engineer of the Eddystone, and had landed them safely on the rock. The vessel rode off at some distance. The wind rising, the men began to be uneasy as to the security of the *Smeaton's* cables, and a party went off in a boat to examine whether she was secure, but before they could reach the vessel's side they found she had already gone adrift, leaving the greater part of the men upon the reef in the face of a rising tide.

By the time the *Smeaton's* crew had got her mainsail set, and made a tack towards their companions, she had drifted about three miles to leeward, with both wind and tide against her, and it was clear that she could not possibly make the rock until long after it had been completely covered. There were thirty-two men in all on the rock, provided with but two boats, capable of carrying only twenty-four persons in fine weather. Mr. Stevenson seems to have behaved with great coolness and presence of mind; though he afterwards confessed that of the two feelings of hope and despair the latter largely predominated. Fully persuaded of the perils of the situation, he kept his fears to himself, and allowed the men to continue their occupations of boring and excavating.

"After working for about three hours, the water began to rise along the lower parts of the foundations, and the men were compelled to desist. The forge-fire became extinguished; the smith ceased from hammering at the anvil, and the masons from hewing and boring; and when they took up their tools to depart, and looked around, their vessel was not to be seen, and the third of their boats had gone after the *Smeaton*, which was drifting away in the distance! Not a word was uttered, but the danger of their position was comprehended by all. They looked towards their master in silence; but the anxiety which had been growing in his mind for some time had now become so intense that he was speechless. When he attempted to speak, he was so parched that his tongue refused utterance. Turning to one of the pools on the rock, he lapped a little water, which gave him relief, though it was salt; but what was his happiness when, on raising his head, some one called out, 'A boat! a boat!' and sure enough a large boat was seen through the surge making for them. She proved to be the Bell Rock pilot-boat, which had come off from Arbroath with letters, and her timely arrival doubtless saved the lives of the greater part of the workmen. They were all taken off and landed in safety, though completely drenched and exhausted."

Rennie, accompanied by one of his sons, visited the rock on the 5th of October, 1807, the day before the works were suspended for the winter. They came off from Arbroath, and stayed on board the lighthouse-yacht all night, where Stevenson met him, and has recorded the delightful conversations held on general and professional matters. On the following morning Rennie landed, amidst great *éclat* and a display of all the available colours, to inspect the progress made. The whole party, workmen and all, returned to shore for the season that day.

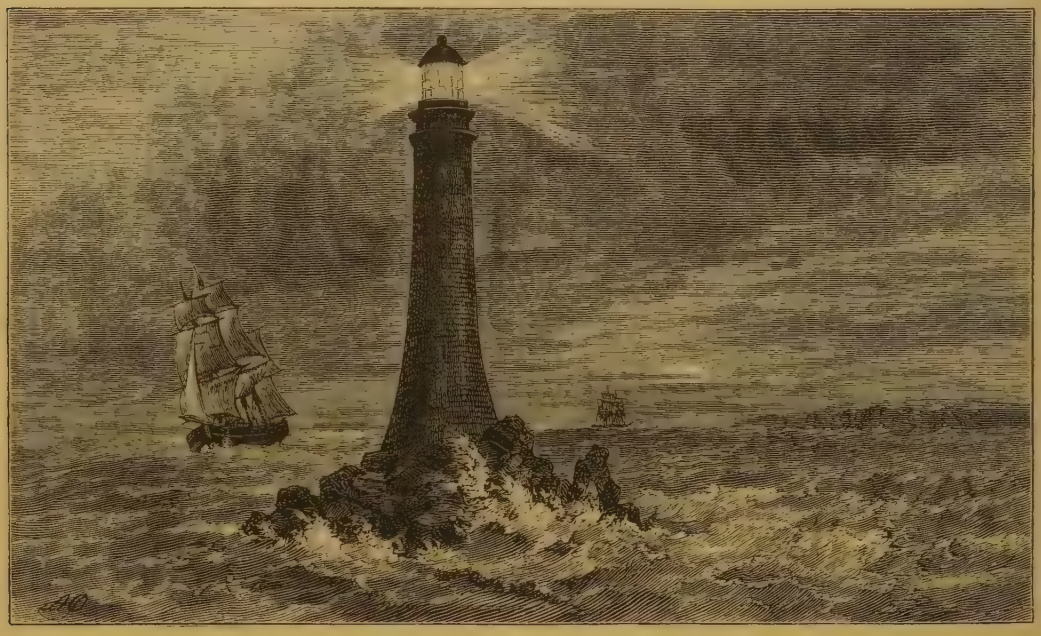
The preparation of the stone blocks occupied next winter, and by the spring large numbers were ready and were floated off. In May, 1808, the excavations on the rock were continued, and on the 10th of July the first stone was laid with considerable ceremony. By the last week of November three courses of masonry had been laid. By the end of 1809 the tower had been built to a height of thirty feet, and was almost secure from the fury of the waves. "In his report to the commissioners he stated that he found that the form of slope which he had adopted for the base of the tower, as well as the curve of the building, fully answered his expectations—that they presented comparatively small obstructions to the roll of the waves, which played round the column with ease." The curve of this tower at the base is much greater than that of the Eddystone. The Bell Rock Lighthouse was completed by the end of 1810, and the light was regularly exhibited after the 1st of February, 1811. Counting to the top of the lantern, it is 127 feet high. It may here be remarked that in many works the credit of designing and building this lighthouse has been given to Robert Stevenson, the resident engineer. Rennie, however, has the only rightful claim to be so considered; he acted throughout as chief engineer, furnished the design down to the pettiest details, settled the kind of stone and other materials to be used, down even to the mortar and mode of mixing it.

Another work of great labour and difficulty was the erection of a lighthouse on the Skerryvore Rocks, which lie twelve miles W.S.W. of the Isle of Tyree in Argyllshire, and were formerly the scene of numerous wrecks. The operations were commenced in 1838, the architect being Alan Stevenson, son of the Robert Stevenson who was employed on the Bell Rock Lighthouse. The engineer gave the world a succinct account* of the difficulties, dangers, and successful issue of the undertaking.

The actual construction of the lighthouse had no very remarkable points of difference with the works of Smeaton or Rennie. Stevenson built a rather novel structure on the rock as a temporary barrack for the workmen. It consisted of a wooden tower perched upon a triangular framework, under which was an open gallery, the floor of which was removed at the end of each season, so as to allow free space for the passage of the sea during the storms of winter, but on which, during summer, they kept the stock of coals, the tool-chest, the beef and beer casks, and other smaller material, which they could not, even at that season of the year, leave on the rock itself. Next came the kitchen and provision-store, a six-sided apartment about twelve feet in diameter, and somewhat more than seven feet high, in which small space—curtailed as it was by the seven beams which passed through it—stood a caboose, capable of cooking for forty men, and various cupboards and lockers lined with tin, for holding biscuits, meal and flour, &c. The next storey held two apartments: one for Mr. Stevenson, in which he had his hammock, desk, chair and table, books and instruments. The top storey was surmounted by a pyramidal roof, and was lined with four tiers of berths, capable of accommodating thirty people. The framework was erected on a part of the rock as far removed as possible from the proposed foundation of the lighthouse tower; but in a great gale which occurred on the 3rd of November it was entirely destroyed and swept from the rock, nothing remaining to point out its site but a

* "Account of the Skerryvore Lighthouse, with Notes on the Illumination of Lighthouses," by Alan Stevenson.

few broken and twisted iron stanchions, and attached to one of them a piece of a beam, so shaken and rent by dashing against the rock as literally to resemble a bunch of laths. Thus did one night obliterate the traces of a season's toil, and blast the hopes which the workmen fondly cherished of a stable dwelling on the rock, and of refuge from the miseries of sea-sickness, which the experience of the season had taught many of them to dread more than death itself. A more successful attempt was subsequently made, and the second erection braved the storm for several years after the works were finished. "Perched forty feet above the wave-beaten rock," says Stevenson, "in this singular abode, the writer of



LIGHTHOUSE ON THE INCHCAPE ROCK.

this little volume* has spent many a weary day and night at those times when the sea prevented any one going down to the rock, anxiously looking for supplies from the shore, and earnestly longing for a change of weather favourable to the re-commencement of the works. For miles around nothing could be seen but white foaming breakers, and nothing heard but howling winds and lashing seas. At such seasons most of our time was spent in bed; for there alone we had effectual shelter from the winds and the spray, which searched every cranny in the walls of the barrack. Our slumbers, too, were at times fearfully interrupted by the sudden pouring of the sea over the roof, the rocking of the house on its pillars, and the spirting of water through the seams of the doors and windows: symptoms which, to one suddenly aroused from sound sleep, recalled the appalling fate of the former barrack, which had been engulfed in the foam not twenty yards from our dwelling, and for a moment seemed to summon us to a similar fate. On two occasions, in particular,

* "A Rudimentary Treatise on the History, Construction, and Illumination of Lighthouses." (Weale's Series.)

those sensations were so vivid as to cause almost every one to spring out of bed; and some of the men flew from the barrack by a temporary gangway to the more stable but less comfortable shelter afforded by the bare wall of the lighthouse tower, then unfinished, where they spent the remainder of the night in the darkness and the cold."

Yet life on the Skerryvore was by no means destitute of its peculiar pleasures. The grandeur of the ocean's rage, the deep murmur of the waves, the hoarse cry of the sea-birds, were varied by peaceful hours, when the sea was glassy and the deep blue vault of heaven was studded with a thousand stars. "Among the many wonders of the 'great deep,'" says Stevenson, "which we witnessed at the Skerryvore, not the least is the agility and power displayed by the unshapely seal. I have often seen half a dozen of these animals round the rock, playing on the surface or riding on the crests of curling waves, come so close as to permit us to see their eyes and head, and lead us to expect that they would be thrown *high and dry* at the foot of the tower; when suddenly they performed a somersault within a few feet of the rock, and diving into the flaky and wreathing foam, disappeared, and as suddenly re-appeared a hundred yards off, uttering a strange low cry.

On one occasion the tender could not come off to the poor people on the rock for seven weeks. The seamen passed a most dreary time. Their provisions and fuel were short; their clothes were worn to rags; and, what was to them of more importance still, they *were out of tobacco!*

One of the great difficulties experienced was landing the stones on the rock from the lighters, which, towed out by a steamer, were cast off as near the landing-place as possible and then towed in by boats. The landing service throughout the whole progress of the works was one of danger and anxiety, and many narrow escapes were made. On many occasions the men who steered the lighters ran great risks, and it was often found necessary to lash them to the rails, to prevent them being thrown overboard by the sudden bounds of the vessels, or being carried away by the weight of water which swept their decks as they were towed through a heavy sea. Sometimes they were forced, owing to the heavy seas which threatened to throw the vessels on the top of the rock, to draw out the lighters from the wharf without landing a single stone, after they had been towed through a stormy passage of thirteen miles. One day, during the very best part of the season, so sudden were the jerks of the vessel before the sea, that eight large warps, or cables, were snapped like threads, and the lighter was carried violently before a crested wave which rolled unexpectedly upon her. Those who stood on deck were thrown flat on their faces, and imagined that the vessel had been laid high and dry on the top of the rock. Yet, in spite of the short season and great difficulties of the work, no less than 120 lighters were towed out and discharged in the summer and autumn of 1841. During the progress of building the lighthouse, cranes and other materials were swept away by the waves, and daily risks were run in blasting the splintery gneiss, or by the falling of heavy bodies from the tower on the narrow space below, to which so many persons were necessarily confined. Yet no loss of life or limb occurred; and "our remarkable preservation was viewed," says Stevenson, "as in a peculiar manner the gracious work of Him by whom 'the very hairs of our head are all numbered.'"

The light was first exhibited on the 1st of February, 1844. It is a revolving apparatus,

and the light appears at its brightest state once in every minute. The lantern is no less than 150 feet above the sea, and its flashes may be seen from the deck of a vessel eighteen miles off. It is frequently seen from the high land of Barra, distant thirty-eight miles. The mass of stonework is double that of the Bell Rock Lighthouse, and five times that of

THE SKERRYVORE LIGHTHOUSE.

the Eddystone; it measures 58,580 cubic feet. The Skerryvore Light-tower was erected at a cost of £86,977 17s. 7d.

The eminent French naturalist, M. de Quatrefages, has given us an admirable description* of a visit paid by him to the lighthouse of Héhaux, on a rock near the Isles of Bréhat,

* *Vide* "The Rambles of a Naturalist on the Coasts of France, Spain, and Sicily."

off the coast of Brittany. He says, after some very beautiful remarks on the contemplation of nature, and its alleviation of the worst heart-sorrows: "Twilight often surprised me in the midst of my reveries, and often, too, the shades of night fell around me while I lay stretched beneath the star-bespangled deep azure canopy of heaven. I could then see another star shining in the far distance, which had been lighted by the hand of man. From the position I had chosen I could recognise the beacon-towers of Héhaux, of which the seamen of the islands had spoken to me with the liveliest expressions of enthusiasm, and which I had frequently watched by day as it stood out like a black line drawn along the whitish background of the sky. I would not leave Bréhat without visiting it. A few slight services had secured me the good-will of the officers of customs, who willingly consented to take me to Héhaux. Accordingly, one splendid day in October we left the harbour of La Corderie in a pinnace, manned by six sturdy seamen. The weather was splendid; not a cloud obscured the sky, which was reflected on the mirror-like surface of the ocean, whose depths it seemed to double. Impelled by the combined action of a light wind, which swelled out two small square sails, and of the rapid current imparted to the waters of Kerpont by the force of the tide, our pinnace shot across the waves as a sledge glides over the snow. Sometimes, indeed, we passed through a whirling eddy, which shook every part of our frail craft, and betrayed the vicinity of some submarine rock; but we soon regained the unruffled sea, and without having taken cognisance of the rapid rate at which we were moving, we saw Bréhat sink below the distant horizon behind us, whilst rock after rock and islet after islet seemed at every moment to emerge from the waves towards which we were advancing. . . . The nearer we drew to Héhaux the taller seemed the beacon-tower, which stood forth from the tower, with its lofty granite column and glass lantern, protected by that magical rod which is able to attract and safely conduct to earth the destructive force of the thunderbolt. We landed, and at once began our inspection of this colossal block, which has been upreared by the hand of man on the Epées de Tréguier, which, once the dread of the seaman, have become his protecting guides through the storms and darkness of night.

"The Héhaux Lighthouse would be regarded as a most remarkable monument even in our principal towns, but standing, as it does, alone in the midst of the ocean, it acquires by its very isolation a character of severe grandeur, which impresses the mind most powerfully. Figure to yourself a wall of granite, where the current and the storm do not even permit the hardiest ferns to take root, with here and there a twisted and deeply wave-worn mass projecting beyond the rest of the rocky ledge. It is here that the architect has laid the foundation of the tower. The base, which is of a conical form, is surmounted by a circular gallery. The lower portion curves gracefully outwards, spreading over the ground like the root of some colossal marine plant springing up from the foundation stones, which have been inserted far within the rock. On this base, which measures about twenty yards across, rises a column twenty-six feet in diameter, surmounted by a second gallery, whose supports and stone balustrades call to mind the portcullis and battlements of some feudal donjon. From the summit to the base this part of the edifice is composed of large blocks of whitish granite, arranged in regular strata, and carefully dovetailed into one another. As far as a third of the height of the building the rows of stones

are bound together by granite joggles, which at the same time penetrate into the two superposed stones. The stones have been cut and arranged with such precision that there has been hardly any reason for using cement, which has only been employed in filling up a few imperceptible voids: and hence the lighthouse, from the base to the summit, seems to form one solid block, which is more homogeneous and probably more compact than the rocks which support it. The platform which crowns this magnificent column, at an elevation of more than 140 feet above high tide watermark, is surmounted by a stone cupola, at once solid and graceful, supported by pillars which are separated by large panes of glass. It is within this frame of glass that the beacon is lighted, which may be distinctly seen from every direction at a distance of twenty-seven miles.

"At low tide the sea leaves a space of several hundred square yards uncovered round the base of the edifice; at high tide it entirely surrounds it. It is then that the tower of Héhaux rises in its solemn isolation from the midst of the waves, as if it were a standard of defiance upraised by the genius of man against the demon of the tempest. At times one might almost fancy that the heavens and the sea, conscious of the outrage offered to them, were leagued together against the enemy, which seems to brave them by its imperturbability. The north-west wind roars round the tower, darkening its thick glass windows with torrents of rain and drifts of snow and hail. These impetuous blasts bear along with them from the far-spread ocean colossal waves, whose crests not unfrequently reach the first gallery, but these fluid masses slide away from the round and polished surfaces of the granite, which leave them no points of adhesion, and darting their long lines of foam above the cupola, they break with thundering roar against the rocks of Stallio-Bras or the boulders of Sillon. The tower supports these terrific assaults without injury, although it bends, as if in homage, before the might of its foes. I was assured by the keepers that during a violent storm the oil in the lamps of the highest rooms presents a variation of level exceeding an inch, which would lead us to assume that the summit of the tower describes an arc of about a yard in extent. This very flexibility seems, however, in itself a proof of durability. At all events, we meet with similar conditions in several monuments, which for ages have braved the inclemency of recurring seasons. The spire of Strasburg Cathedral, in particular, bends its long ogives and slender pinnacles beneath the force of the winds, while the cross on its summit oscillates at an elevation of more than 450 feet above the ground.

"To construct a monument on these rocks, which seemed the very focus of all the storms which raged on that part of our coasts, was like building an edifice in the open sea. Such a project must, indeed, have appeared at first sight almost impracticable. After their third season of labour, the workmen completed the foundations of the tower and fixed the key-stone of the cupola. In vain did difficulties of every kind combine with the winds and waves to oppose the work; human industry has come forth victorious from the struggle, and although a thousand difficulties and dangers beset the labourers, no serious accident to them or their work troubled the joy of their triumph. Only on one occasion was science at fault. In order to facilitate the arrival of the stones, which had to be brought from a distance of several leagues, and cut at Bréhat, the skilful engineer who had furnished all the plans and superintended their execution wished to construct

a wooden pier for the disembarkation of the stones at the spot where they were required. Several of the older seamen objected to the plan as impracticable, but M. Reynaud, who was not familiar with the sea, and who, moreover, was proud of having stemmed the current of rapid rivers, trusted to the stability of his massive piles, clamped together with iron and bronze. But he was soon compelled to admit his mistake. The first storm sufficed to scatter over the waters the whole of these ponderous and solid materials like so many pieces of straw. So a crane was attached to the summit of a rock, to which boats could be moored, and the materials for building were then drawn up to a railway which had been thrown over the precipice that separated this natural landing-place from the site of the tower.

"Now that we have admired the exterior of the lighthouse, follow me into the interior by the help of these steps, which have been formed by the insertion of bars of copper into the stone. Let us pause for a moment to admire the ponderous bronze doors which hermetically seal the entrance, before we plunge into those vaults which look as if they had been cut out of the solid rock. We are in the first storey, surrounded by stores of wood and ropes and workmen's tools. Above, we perceive cases of zinc, which, we are told, contain oil to feed the lamps and water for the use of the men employed in the building. In the third storey is the kitchen, with its pantry and larder, on a level with the first gallery. We need not enter the three apartments appropriated to the use of the men, for, beyond being very simple and clean, there is nothing to record concerning them. But we have now reached the seventh storey, and we must rest for a few moments in the little octagonal saloon, set apart for the engineers, when they come to inspect the condition of the lighthouse. Here, in the midst of the ocean, more than a hundred feet above the level of the sea, you will find the comfort and almost the elegance of a Parisian apartment.

"Let us now return to the spiral staircase which has brought us thus far, and which will carry us at once to the portion of the edifice which is more particularly destined to fulfil the special purpose for which the tower is designed. The eighth storey contains vessels of oil, glasses, revolving lamps, some admirable instruments intended for meteorological observations, a thermometer, barometer, and chronometer. Here the spiral staircase terminates in a flattened arch, which supports a slender pillar, cut into steps, which are the only means of communication with the watch-tower above, in which the men take it by turns to keep guard every night. You will be surprised on looking round to perceive that this apartment is coated with different coloured marbles, which line the walls and vaulted roof, and even cover the floor. But this luxury, which may appear to you so much out of place, has been introduced from necessity. The apparatus for lighting the building enters the room through a circular aperture in the ceiling, and hence the most extreme cleanliness becomes necessary, which could alone be obtained by the aid of perfectly polished surfaces."

The tenth and last flight of steps brings one beneath the cupola, and to the machinery by which a light of the first order is maintained.

CHAPTER XII.

The Lighthouse (*concluded*).

Lighthouses on Sand—Literally screwed down—The Light on Maplin Sands—That of Port Fleetwood—Iron Lighthouses—The Lanterns themselves—Eddystone long Illuminated with Tallow Candles—Coal Fires—Revolution caused by the invention of the Argand Burner—Improvements in Reflectors—The Electric Light at Sea—Flashing and Revolving Lights—Coloured Lights—Their Advantages and Disadvantages—Lanterns obscured by Moths, Bees, and Birds.

The difficulties involved in constructing a lighthouse on solid rock have been shown, and it was at one time thought absolutely impossible to erect—with any prospect of permanent duration—one upon storm-exposed sands. *Nous avons changé tout cela.* It is no longer necessary to place floating lights in places of great danger, although for other reasons they are constantly used. One of the greatest modern triumphs of engineering is Mitchell's screw-mooring apparatus. To describe it fully would necessitate several pages of technical matter. Suffice it to say that enormous cast-iron screws, having hollow cylindrical centres, through which wrought-iron spindles pass, are literally screwed down into the sand, or its substratum of other soil. One of the earliest experiments was made on the verge of the Maplin Sand, at the mouth of the Thames. Nine of the mooring-screws were inserted into the sand 21½ feet, one in the centre, the rest forming an octagon 42 feet in circumference, having standards or posts which stood 5 feet above the surface of the sand. A raft of timber was floated over the spot, and a capstan in its centre drove the screws to the required depth. This raft was afterwards sunk, by covering it with 200 tons of rough stone. Two years were allowed to elapse, at the termination of which time the whole mass was found firmly embedded, and then a lighthouse, raised on a strong open framework, was erected over this sub-structure. During these long preparations a very similar structure was commenced and finished at Port Fleetwood, on the River Wyre, near Lancaster.

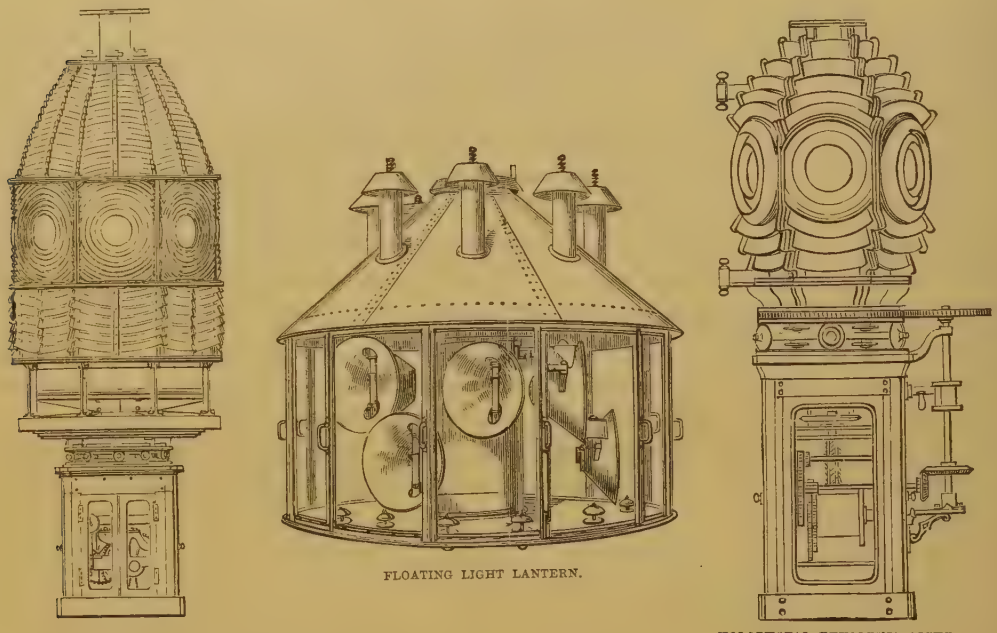
The preparatory steps were similar to those already described. The foundation of the lighthouse was formed of seven screw-piles, six of them occuping the angles of a hexagon 46 feet in diameter, the seventh being in the centre. From each screw proceeds a pile 15 feet in length, having at the upper end another screw for securing a wooden column. These columns are of Baltic timber, the one in the centre being 56 feet, the others 46 feet in length, firmly secured with iron hoops and coated with pitch. The platform, upon which the house stands, is 27 feet in diameter, the house itself being 20 feet in diameter and 9 feet high. From the summit of the house rises a twelve-sided lantern, 10 feet in diameter and 8 feet high. Altogether the light is elevated about 46 feet above low-water level, and ranges over an horizon of eight miles. The light is of the dioptric kind—bright, steady, and uniform, and when the weather is too foggy to allow it to be seen, a bell is tolled by machinery, to give the needful warning.

At the period when screw-pile lighthouses were being thus successfully erected, other and most valuable suggestions were being made for the building of bronze and cast-iron lighthouses. The great advantage of iron over stone and other materials in those portions of the building not actually in contact with sea-water soon became apparent. Upon a

given base a much larger internal capacity could be obtained; plates could be cast in large surfaces and with few joints, and a system of binding adopted which should ensure the perfect combination of every part. The comparatively small bulk and weight also of the component parts gave great facilities for the transport and rapid construction of such structures. The initial cast-iron lighthouse was designed by Mr. Gordon in 1840, and was cast and put together within three months from the date of the contract. It was then taken to pieces and shipped for Jamaica, on which island it now lights up Morant Point, a point of great danger. The Commissioners of the House of Assembly had applied to Mr. Gordon to supply a suitable lighthouse at the smallest possible cost, and in furnishing them with the structure of cast-iron he fulfilled their wishes admirably, the expense not exceeding one-third of the cost of a similar building in stone. This elegant lighthouse, the outline of which resembles that of the Celtic towers of Ireland, was exhibited to visitors while it stood complete in the contractor's premises. The diameter of the tower is 18 feet 6 inches at the base, diminishing to 11 feet under the cap. The tower is formed of nine tiers of iron plates, each tier being 10 feet high and about three-quarters of an inch thick. At the base of the structure eleven plates are required to form the circumference, at the top nine plates; they are cast with a flange around their inner edges, and when put together these flanges form the joints, which are fastened together with nut-and-screw bolts and caulked with iron cement. The interior of the tower, to the height of 27 feet, was to be filled up with masonry and concrete of the weight of 300 tons; the remainder is divided into store-rooms and berths for the attendants. The tower is finished by an iron railing, within which rises the light-room, also of cast-iron, with windows of plate-glass. A copper roof and a short lightning-rod complete the whole. The Admiralty notice announced the exhibition of this light on Morant Point November 1st, 1842, and stated that the elevation of the light is 97 feet above the level of the sea, and that in clear weather it is visible at a distance of twenty-one miles. The light is of the revolving kind, consisting of fifteen Argand lamps and reflectors, five in each side of an equilateral triangle, and so placed as to produce a continuous light, but with periodical flashes. The tower is painted white, and the lower portion is coated with coal-tar to preserve it from rust. It rests on a granite base, and is also cased with granite near the foundation, the more certainly to prevent the action of the sea-water on the metal.

While the engineer had attained some of his greatest triumphs in the construction of lighthouses, the optician had not once directed his attention to the invention of a brilliant light, worthy to be placed upon the structure which proudly rose high above the fierce waves with the strength and solidity of a rock. During a period of forty years after the completion of the Eddystone tower by Smeaton, the lantern was illuminated by tallow candles stuck in hoops, just as a stand or booth is lighted at a country fair, and so lately as the year 1811 it was lighted with twenty-four wax candles. In 1812 the Lizard Light was maintained with coal fires; and in 1816, when the Isle of May Light, in the Frith of Forth, was taken possession of by the Commissioners of the Northern Lighthouses, a coal fire was exhibited in a *chauffer*—a description of light which had been exhibited for 181 years. In 1801 the light at Harwich, in addition to the coal fire, had a *flat* plate of

rough brass on the landward side, to serve as a reflector. Such methods of lighting were of course very deficient in power, and did not enable the mariner to distinguish one light from another—a point which is often of as much importance as the brilliancy of the light itself. Prior to the invention of the Argand lamp (about 1784) the production of a strong and brilliant light from a single source was scarcely possible, and even such a lamp, by its unassisted powers, would not be of very great value in giving early notice to the mariner of his approach to the coast, which ought to be the primary object of a



HOLOPHOTAL REVOLVING LIGHT. (FIRST ORDER.)

FLOATING LIGHT LANTERN.

HOLOPHOTAL REVOLVING LIGHT. (FOURTH ORDER.)

REVOLVING LIGHT APPARATUS.

(From Drawings supplied by Messrs. W. Wilkins & Co.)

lighthouse. As the rays of a luminous body proceed in all directions in straight lines, it is obvious that in the case of a single lamp the mariner would derive benefit only from that small portion of light which proceeded from the centre of the flame to his eye. The other rays would proceed to other parts of the horizon, or escape upwards to the sky, or downwards to the earth, and thus be of no value to him. By increasing the number of burners a small portion of light from each burner would slightly increase the effective action, but by far the greater portion of the light produced would escape uselessly above and below the horizon and also at the back of each flame. Next, these defects were remedied, and the efficiency of the light greatly increased, by placing behind each lamp a reflector of such a form as to collect the rays that would otherwise be lost, and throw them forward to the horizon. The adoption of such a method has led to what is called the catoptric system of lights.

Alan Stevenson states that the earliest notice he has been able to find of the application of paraboloidal mirrors to lighthouses is in a work on "Practical Seamanship" (Liverpool, 1791), by Mr. William Hutchinson, who notices the erection of the four lights at Bidstone and Hoylake for the entrance of the Mersey, in 1763, and describes large paraboloidal moulds of wood lined with mirror glass and smaller ones of polished tin-plate, as in use in those lighthouses. In France M. Téulère, a Member of the Royal Corps of Engineers of Bridges and Roads, is regarded as the inventor of the catoptric system of lights. In a memoir dated 26th June, 1783, he is said to have proposed for the Cordouan Lighthouse a combination of paraboloidal reflectors with Argand lamps, arranged on a revolving frame, a plan which was actually carried into execution, under the direction of the Chevalier Borda.* The plan was so successful that it was soon adopted in England by the Trinity House of London; and in Scotland the first work of the Northern Lights Board, in 1787, was to light a lantern on the Old Castle of Kinnaird Head, in Aberdeenshire, by means of parabolic reflectors and lamps. These reflectors were formed of facets of mirror-glass placed in hollow paraboloidal moulds of plaster. The more complicated arrangement of lenses placed round a centre in concentric circles is due to the great Fresnel, a practical man of science, whose abilities are acknowledged as fully in England as in France.

The oil used in the lighthouses of the United Kingdom has generally been sperm. Colza, the expressed oil of the wild cabbage (*Brassica oleracea*), was very generally used in France, and occasionally in Great Britain. Gas is used in a few places, where its application is easy. There can hardly be any doubt now, however, that the coming light will be the electric, since its steady production is becoming a matter of scientific certainty. As early as 1857 Professor Holmes submitted to the Trinity House a method of employing this light, which was submitted to Faraday, and approved. The Board then allowed a trial at the South Foreland Lighthouse. The light was first displayed on the 8th of December, 1858. In June, 1862, it was permanently fixed at Dungeness. In Faraday's Report to the Trinity House, published in 1862, he says: "Arrangements were made on shore by which observations could be made at sea, about five miles off, on the relative light of the electric lamp and the metallic reflectors with their Argand oil-lamps, for either could be shown alone, or both together. At the given distance the eye could not separate the two lights, but by the telescope they were distinguishable. The combined effect was a glorious light up to five miles; then, if the electric light was extinguished, there was a great falling off in the effect, though, after a few moments' rest to the eye, it was seen that the oil-lamps and reflectors were in their good and proper state. On the other hand, when the electric light was restored, the glory rose to its first high condition. . . . . During the day-time I compared the intensity of the light with that of the sun, and both looked at through dark glasses. Its light was as bright as that of the sun, but the sun was not at its brightest."

The number of lights on a well-frequented coast being considerable, it is of the utmost importance to arrange them so as to enable the mariner easily to distinguish

* M. Quatrefages de Bréau, the distinguished French naturalist and philosopher, says that the revolving apparatus was partially due to M. Lemoine, a citizen, and at one time Mayor, of Calais.

them from each other. Catoptric lights admit of nine separate distinctions:—1, fixed; 2, revolving white; 3, revolving red and white; 4, revolving red with two whites; 5, revolving white with two reds; 6, flashing; 7, intermittent; 8, double fixed lights; 9, double revolving white lights. Mr. Stevenson thus defines their distinctive features:—"The first exhibits a steady and uniform appearance which is not subject to any change, and the reflectors used for it are of smaller dimensions than those employed in revolving lights. This is necessary in order to permit them to be ranged round the circular frame, with their axes inclined at such an angle as shall enable them to illuminate every point of the horizon. The *revolving* light is produced by the revolution of a frame with three or four sides, having reflectors of a larger size grouped on each side with their axes parallel, and as the revolution exhibits once in two minutes or once in a minute, as may be required, a light gradually increasing to full strength and in the same gradual manner decreasing to total darkness, its appearance is extremely well marked. The succession of red and white lights is produced by the revolution of a frame whose different sides present red and white lights, and these afford three separate distinctions, namely, alternate red and white, the succession of two white lights after one red, and the succession of two red lights after one white light. The flashing light is produced in the same manner as the revolving light; but, owing to a different construction of the frame, the reflectors on each of eight sides are arranged with their rims or faces in one vertical plane, and their axes in a line inclined to the perpendicular. A disposition of the mirrors, which, together with the greater quickness of the revolutions, which shows a flash once in five seconds of time, produces a very striking effect, totally different from that of a revolving light, and presenting the appearance of the flash alternately rising and sinking, the brightest and darkest periods being but momentary; this light is further characterised by a rapid succession of bright flashes, from which it gets its name. The intermittent light is distinguished by bursting suddenly into view and continuing steady for a short time, after which it is suddenly eclipsed for half a minute. Its striking appearance is produced by the perpendicular motion of circular shades in front of the reflectors, by which the light is alternately hid and displayed. This distinction, as well as that called the flashing light, is peculiar to the Scotch coast. The double lights (which are seldom used except where there is a necessity for a *leading* line, as a guide for taking some channel or avoiding some danger) are generally exhibited from two towers, one of which is higher than the other. At the Gulf of Man a striking variety has been introduced into the character of leading lights, by substituting for two fixed lights two lights which revolve in the same periods and exhibit their flashes at the same instant; and these lights are of course susceptible of the other variety enumerated above, that of two revolving red and white lights, or flashing lights, coming into view at equal intervals of time. The utility of all these distinctions is to be valued with reference to their property of at once striking the eye of an observer and being instantaneously obvious to strangers. The introduction of colour as a source of distinction is necessary in order to obtain a sufficient number of distinctions; but it is in itself an evil of no small magnitude, as the effect is produced by interposing coloured media between the burner and the observer's eye, and much light is thus lost by the absorption of those rays which are held back in order to cause

the appearance which is desired. Trial has been made of various colours, but red, blue, and green alone have been found useful, and the two latter only at distances so short as to render them altogether unfit for sea-lights. Owing to the depth of tint which is required to produce a marked effect, the red shades generally used absorb from four-sevenths to five-sixths of the whole light—an enormous loss, and sufficient to discourage the adoption of that mode of distinction in every situation where it can possibly be avoided. The red glass used in France absorbs only four-sevenths of the light, but its colour produces, as might be expected, a much less marked distinction to the seaman's eye. In the lighthouses of Scotland a simple and convenient arrangement exists for colouring the lights, which consists in using chimneys of red glass, instead of placing large discs in front of the reflectors."

The construction of the lantern is a point of importance; and one of the first order will cost about £1,260. On the level of the top of the lower glass a narrow gangway is usually built for the keeper to stand upon in order to clean the panes, an operation which in snowy weather may have to be frequently repeated during the night. At some of the lighthouses on the Mediterranean the lantern is at certain seasons so completely covered with moths as to obscure the light and to require the attendance of men with brooms. Mr. Tomlinson was informed by the keepers at the Eddystone that bees and other insects were much attracted by the light, and collected round the lantern in great numbers. Larks and other birds flew against it, and, becoming stunned with the blow, were picked up on the balcony and were cooked by the men for breakfast. The lantern is very liable to injury in high winds, or the glass may be broken by large sea-birds coming against it on a stormy night, or by small stones violently driven against it by the wind. Extra plates of glass are always kept to take the place of broken panes. The number of light-keepers employed varies, ranging from two to four, and in the latter case one is usually allowed to remain on shore, the men taking the privilege in turns. When the situation admits, it is usual to have the keeper's rooms in a building outside the lighthouse to avoid dust, which is most injurious to the delicate apparatus of the light-room. Great cleanliness is enforced in all that belongs to a lighthouse, the reflectors and lenses being constantly burnished, polished, and cleansed.

And so we have traced the history and progress of lighthouses, and it is hard to believe that any great change can be advantageously made in their construction, though their mode of illumination will doubtless be greatly improved. As we have seen, the electric light was used practically in a lighthouse long before it was in the streets of the great metropolis, and not in a merely experimental way, but with the most successful results.

BREAKWATER AT VENICE.

CHAPTER XIII.

The Breakwater.

Breakwaters, Ancient and Modern—Origin and History of that at Cherbourg—Stones Sunk in Wooden Cones—Partial Failure of the Plan—Millions of Tons dropped to the Bottom—The Breakwater Temporarily Abandoned—Completed by Napoleon III.—A Port Bristling with Guns—Rennie's Plymouth Breakwater—Ingenious Mode of Depositing the Stones—Lessons of the Sea—The Waves the Best Workmen—Completion of the Work—Grand Double Breakwater at Portland—The English Cherbourg—A Magnificent Piece of Engineering—Utilisation of Otherwise Worthless Stone—900 Convicts at Work—The Great Fortifications—The Verne—Gibraltar at Home—A Gigantic Fosse—Portland almost Impregnable—Breakwaters Elsewhere.

A BREAKWATER, we are told on the highest authority, is an obstruction of wood, stone, or other material, as a boom or raft of wood, sunken vessels, &c., placed before the entrance of a port or harbour, or any projection from the land into the sea, as a mole, pier, or jetty, so situated as to break the force of the waves and prevent damage to shipping lying at anchor within them. Thus the piers of the ancient Piræus and of Rhodes; the moles of Venice, Naples, Genoa, and Castellamare; the piers of Ramsgate, Margate, Folkestone, Howth, and the famous wooden dike thrown across the port of Rochelle. The term, of late years, has been almost exclusively applied to insulated dikes of stone. Of this description of dike for creating an artificial harbour on a grand scale, Cherbourg, Plymouth, and Portland present leading examples. The former, already mentioned in this work, claims our attention.

The French, happily our good friends to-day, were not always so, and there was a period when the splendid natural harbours, bays, and roadsteads of this country were a source of annoyance to them. While nature had been more than kind to us, their coast presented a series of sandy shores, intermingled with iron-bound coasts, bristling with rocks. De Vauban, the great engineer, was employed by Louis, the *Grand Monarque*, to inspect the Channel shores of France, and his natural sagacity and great knowledge

caused him at once to select Cherbourg as one of the best points for forming an artificial harbour, protected by suitable fortifications. Other engineers recommended the same port, and one, M. de la Bretonnière, proposed that a number of old ships should be loaded with stones and sunk, while a large quantity of stone should be also thrown around them to form a grand breakwater, which should rise fifty feet from the bottom. This idea was abandoned, as it appears, partly from the fact that France had not old vessels enough to spare for the purpose, and that it would cost too much to purchase them from foreign nations.

In 1781 an eminent French engineer proposed that, instead of one continuous breakwater, a number of large masses or congregations of stones, separated from each other on the surfaces but touching at the bases, should be built on the sea bottom, believing that they would break the force of the waves almost equally well. As a part of his plan he suggested that they should be sunk in large conical *caissons* of wood, 150 feet in diameter at the base and sixty feet broad at the top. These wooden cones were practically to bind and keep the stones together. They were to be floated to the site with a number of empty casks attached as floats, then detached, filled with stones, and sunk. An experiment at Havre having been considered satisfactory, the Government accepted the idea, and ordered that operations should be immediately commenced at Cherbourg. A permanent council was appointed, as were officers and engineers. In 1783 barracks and a navy-yard were built, and at Becquet, a short distance from Cherbourg, an artificial harbour, capable of holding eighty small vessels for the transport of the stone, was literally dug out.

On June 6th, 1784, the first cone was floated to its destination, and a month later a second was similarly conveyed, in the presence of 10,000 spectators. Before the latter could be filled with stones a storm, which lasted five days, half demolished it. In the course of the summer and autumn not less than 65,000 tons of stone were deposited in and around the cones. In 1785 several more cones were completed and sunk; at the end of the year the quantity of stone deposited amounted to a quarter of a million tons, and at the end of 1787 a million tons. At the end of 1790, when the works had been seven years in progress and the Government was getting very tired of the whole matter, between five and six million tons of stone had been dropped into the sea. M. de Cessart, the engineer, found that, in order to sink five cones per annum, he had to employ 250 carpenters, 30 blacksmiths, 200 stone-hewers, and 200 masons.

One could hardly expect much permanency from a wooden covering sunk into the sea, and it is not surprising that, one by one, they burst, few lasting more than a year. The outbreak of the Revolution put an end, for some time, to the operations at Cherbourg.

When the construction of the Cherbourg breakwater was resumed, the wooden cone system was abandoned, and the stone was simply sunk from vessels of peculiar construction. The breakwater was completed under Napoleon III., at a cost exceeding two and a half million pounds sterling. The actual breakwater itself was finished in 1853,* but since

* It was exposed twice to terrific storms during its construction. In 1808 the battery was submerged, the parapet upset, and the barracks and garrison, with sixty men, swept away. But the large blocks of stone were afterwards found to be more securely stowed than they had been before.

that time most important fortifications have been constructed on the upper works. This is the greatest breakwater in the world, its length being nearly two and a half miles; it is 300 feet wide at the base and 31 at the top. The water-space shut in and protected is about 2,000 acres, much of this great area being, however, too shallow for very large vessels.

Taken in connection with the fortifications, this breakwater has a value greater than any other in the world. At the apex of the angle formed by the junction of the two branches of the breakwater there is a grand fort, and it bristles generally with batteries and forts, as indeed does Cherbourg generally. Dr. W. H. Russell wrote of it, in our leading journal in 1860 that, "Wherever you look you fancy that on the spot you occupy are specially pointed dozens of the dull black eyes from their rigid lids of stone." With its twenty-four regular forts and redoubts, not including those on the mole, floating harbours, building slips, navy-yards, arsenals, and barracks, Cherbourg is a most formidable place.

In England Rennie's great Plymouth breakwater is the most remarkable specimen, among many others. Its dimensions are not as great as that of Cherbourg, but it was, nevertheless, a vast undertaking. It consists of an immense number of blocks of stone thrown into the Sound, and forms a barrier nearly a mile in length above the surface of the water. This grand work was commenced in 1812, and by the end of the second year about 800 yards of the breakwater began to appear at low water, and the swell was so much broken that ships of all sizes began to take shelter behind it; while the fishermen within its shelter could not judge accurately of the weather outside the Sound, so great was the change. Several limestone quarries near the Catwater were purchased of the Duke of Bedford for £10,000, and some fifteen vessels were constantly employed in removing the blocks, which ranged in weight from one to ten tons. These vessels were of ingenious construction; they had two railways laid along them parallel to each other, with openings in the stern to admit the cars or trucks laden with stones. These were wheeled from the quarry to the quay, and so on to the vessels, till the lines of rails were filled with trucks. The vessels then proceeded to the works, each bearing its load of stone-laden trucks. On reaching the breakwater each truck was wheeled to the opening, and the stones tipped into the sea. During the first five years the amount of stone deposited gradually rose from 16,000 to 300,000 tons per annum. The large masses were first lowered, and then smaller stones, quarry rubbish, &c., to fill up the interstices. The structure was completed in 1841, with the use of 3,670,444 tons of stone* and at a cost of something like a million and a half of money. A distinguished French engineer, M. Dupin, who visited the works during their progress, describes in glowing terms the admirable arrangements, the order and regularity visible in all the proceedings. "Those enormous masses of stone," he remarks, "which the quarrymen strike with heavy strokes of their hammers; and those aerial roads of flying bridges, which serve for the removal of the superstratum of earth; those lines of cranes, all at work at the same moment; the trucks, all in motion; the arrival, the loading, and the departure of the vessels, all this forms one of the most imposing

* "An amount of material," says a well-known authority, "at least equal to that contained in the Great Pyramid."

sights that can strike a friend to the great works of art. At fixed hours the sound of a bell is heard, in order to announce the blasting of the quarry. The operations instantly cease on all sides; all becomes silence and solitude. This universal silence renders still more imposing the noise of the explosion, the splitting of the rocks, their ponderous fall, and the prolonged sound of the echoes."

"The waves," said Rennie, "were the best workmen" in the construction of a breakwater of rough stones, and on the whole his belief was confirmed, for the storms by which his great work was assailed rather helped than hindered it, by showing the most desirable slope on the sea-side, while comparatively little damage was done. The slope of the stone barrier was, however, by their force changed very greatly. An inclination of three to one was altered to about five to one, and Rennie had recommended that the authorities should take a lesson from nature and finish the breakwater according to her teachings. "It would appear," says Mr. Smiles,* "that Mr. Whidbey, the resident engineer, contrived to finish most of the exterior face at a slope of only three to one, as before; and that it stood without any material interruption until several years after Mr. Rennie's death. By that time nearly the whole of the intended rubble, amounting to 2,381,321 tons, had been deposited, and the main arm, with 200 yards of the west arm, making 1,241 yards in length, had been raised to the required level. The work had arrived at that stage when it had to experience the full force of another terrific storm, which took place on the 23rd of November, 1824. It blew at first from the south-south-east and then veered round to the south-west, and the effect of this concurrence of winds was to heap together the waters of the Channel between Bolt Head and Lizard Point, and drive them, with terrific force, into the narrow inlet of Plymouth Sound. This storm was not only greatly more violent, but of much longer duration than that of 1817. When the breakwater could be examined it was found that out of the 1,241 yards of the upper part, which had been completed with a slope of three to one, 796 yards had been altered as in the previous storm, and the immense blocks of stone which formed the sea-face of the work had, by the force of the waves, been rolled over to the landward sides thus reducing the sea-slope, as before, to about five to one. The accuracy of Mr. Rennie's view as to the proper slope—which was indicated by the action of the sea itself—was thus a second time confirmed;" and a board of eminent engineers reporting in accordance, the work was so finished. When the action of the sea had formed its own slope and had wedged together and settled the great mass of materials which form the breakwater, and when no further movement was apparent, but the whole appeared consolidated together, then the slope towards the sea was cased with regular courses of masonry, dove-tailed and cramped together, the diving-bell being brought into requisition for placing the lower courses. A lighthouse has been erected on its western extremity, and the work may be regarded as a magnificent success, worthy of a great maritime nation.

A third leading illustration of a magnificent breakwater is afforded at Portland, and it is deserving of particular mention inasmuch as all authorities agree that it was constructed with little or no waste of the public money. "In the mind of the inquiring tax-payer,"

* "Lives of the Engineers."

said our leading journal,* "breakwaters are always associated with millions of money thrown broadcast into the sea, in out-of-the-way bays and inlets, which even without these obstacles to make them more dangerous, the most distressed mariner would be particularly careful to avoid;" and the writer goes on to mention several which either ought not to have been attempted, or where extravagant expenditure has been incurred. "In such a woeful list of hideous failure and costly mismanagement, it is a comfort to perceive that the long lane begins to turn at last, and that from our now having one good standard to go by, we may hope for better things for the future. Portland breakwater is a really grand

CHERBOURG, FROM THE SEA.

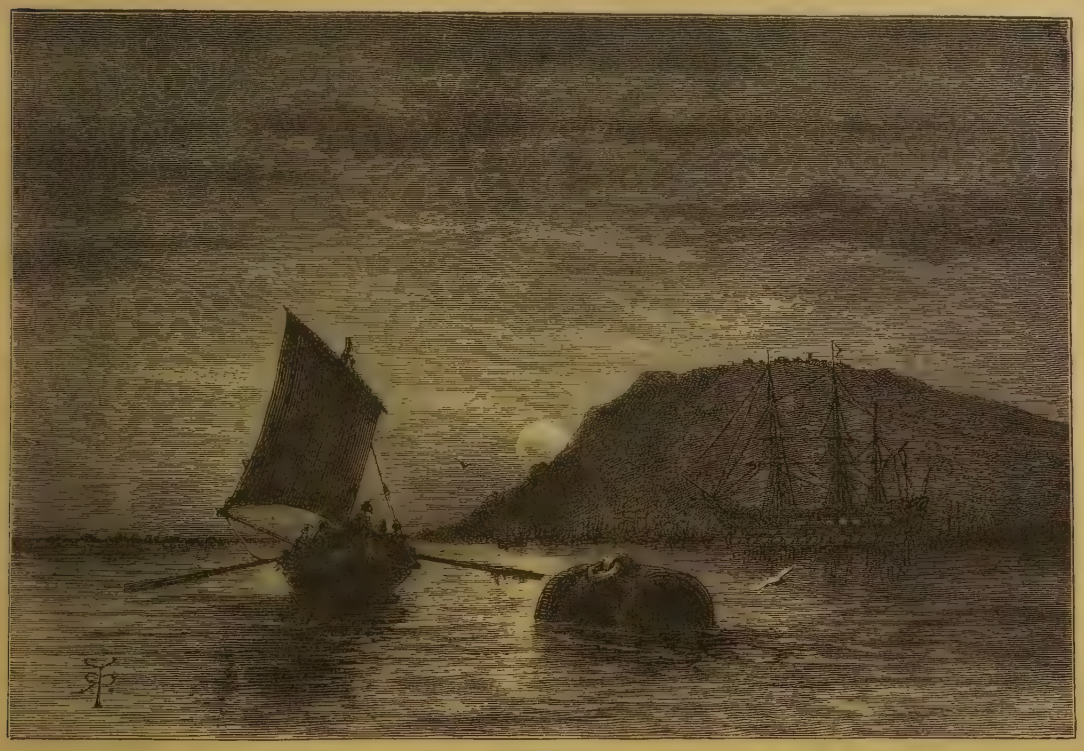
and magnificent work, and one of which the nation may well be proud if it is inclined to let bygones be bygones, and forget the many successive failures before it was able to attain so much." Portland breakwater is the right construction in the right place, and before its erection the Roads afforded doubtful shelter to vessels in distress. One advantage it enjoys, that of possessing a splendid anchorage of stiff blue clay, and being free from rock or shoal from the island of Portland itself up to the very esplanade of Weymouth. There, too, was the stone on the very spot; steep and rugged heights for fortifications, a noble harbour for shipping, and rail communication with all parts. But all these advantages might have been ignored but for the formidable nature of the works constructed at Cherbourg. The port itself is about five hours' steaming from the French Cronstadt it was designed, *sub rosâ*, to keep an eye upon. So, in 1844, the commissioners recommended that it should

* The *Times*, September 14th, 1861.

THE ARCTIC YACHT *PANDORA*.

be made a grand fortified naval station. In 1847 an Act was passed authorising the construction of a breakwater, and in 1849 the foundation-stone was laid by the Prince Consort.

Nature has provided, in the mighty bank known as the Chesil Beach, practically a great shingle embankment, protection to Portland Harbour on the west and south-west, and the object of the breakwater was to secure, by engineering art, a similar protection to the bay on the south-east side. The Chesil Bank, though now and for long perfectly impregnable to the tremendous rollers of the south-westerly gales, was not always so, and as late as the



PORTLAND.

reign of Henry VIII. great breaches had been temporarily effected by the power of the sea. Still it affords a splendid protection, as does now the mighty double breakwater designed by Rendel, and brought to completion by Coode. The breakwater leaves the shore at the north-eastern extremity of the island, and runs out due east to a distance of 600 yards. "This inner limb alone," wrote an authority in engineering,* "is a splendid achievement of human labour and skill. It has been top-finished by a grand superstructure of hewn granite, and ends in a circular head, which has been completed as a fort and mounts eight guns. The foundations of this massive bastion have been most carefully planned, with especial reference to the safe passage of the largest vessels through the 400 feet gap which the fort flanks on one side. The masonry is continued in a perpendicular line to a point 25 feet

* Horace Moule in Weldon's "Register of Facts and Occurrences relating to Literature, the Sciences, and the Arts," December, 1862.

below the lowest water-line of spring-tides. A ship of the line, as is well-known, draws at the utmost 24 feet. An extra foot of perpendicular masonry, therefore, having been allowed, the lower masses of the fort begin to slant outwards, and continue to do so till they reach the firm clay bottom. This lower portion consists of a well-consolidated mass of unhewn stone. The outer, and by far the longer limb, of the breakwater begins to bend away to a point very near due north shortly after leaving the gap, the further side of which is also flanked by a circular head. . . . The whole of this vast outer limb, with the exception of the circular head at its inner extremity and a fort at the other end, consists of nothing more than a stupendous bank of rough unhewn stones of all shapes and sizes, tumbled out of the wagons on the timber staging above. Divers, constantly employed, have effectually prevented the chance of any holes being left in the rising mass, and have been able to indicate the precise spot over which a given number of loads were required to be 'tipped.' The security of the bank is further guaranteed by its enormous width at the base; and although the waves have already rounded many a giant block below the water-line and made it look as if its present place had been its abode ever since the Creation, yet this polishing and grinding is the extent of the effect which they will be able to produce upon a work probably destined to hold its own as long as Portland itself."

The rapidity with which the breakwater was constructed reflected great credit on Mr. Coode. The actual routine of the construction followed, when the line for the structure had been sounded and carefully marked out, was to commence piling for the railway that was to carry the long trains of wagons filled with the stone; and when a short piece of this was completed, to go on "tipping in" the rubble and rough stone till they made their appearance above water at last; then the piling was carried forward a few yards more, and the process repeated, and so on by successive stages to the completion of the work. All appears very simple on paper until we learn that it had to be accomplished through eleven fathoms of rough tumbling waves. One night's rough weather often swept away the timber-work that cost many thousands of pounds, and many months of labour to construct and fix in its position in the sea. The piling that had to resist the action of a deep and heavy sea, and to carry also, at a height of 90 feet, a railway for the heaviest traffic, required to be something more than a common framework of timber. Every log used had to be first of all saturated to its very centre with creosote, and this was done in a most ingenious manner. A great boiler, 100 feet long and 7 feet in diameter, was filled with the largest and finest logs procurable; the mouth being closed with a solid air-tight cover, the air was pumped out, not only from the tube, but from the very pores of the wood itself. When the vacuum was as complete as possible, the creosote was admitted from tanks at the bottom and forced into the timber by hydraulic power of about 300 lbs. to the square inch. In this the logs remained for two or three days, by which time the creosote was forced into the fibre of the wood. Several of the logs thus prepared were bolted and bound together, till one huge spar 90 feet long, and eight or nine tons in weight, was formed. Then an iron "Mitchell" screw—as used in the lighthouses built on sands, already described—was affixed at the lower end, and the whole sunk till it rested on the bottom, when it was worked round by a capstan till it was firmly screwed into the clay. Thus secured, they were tolerably safe, though single heavy waves would uproot piles and moorings together, to obviate which

two or three piles were generally set at the same time, and well bound together by powerful cross timbers.

The stone quarried for the breakwater from the very top of Portland Island was largely excavated and brought to the spot by convict labour. The stone itself used was unfit for architectural purposes, but quite suitable for the breakwater. The convict prison, also on the top of the island, was virtually the barracks for 900 labourers, who were more profitably employed than in walking a treadmill or picking oakum. The quarries were some 400 or 500 feet above the level of the breakwater, and the stone was conveyed to it by three inclines of broad double gauge rails. The trains of trucks or wagons were worked up and down with a wire rope over a drum, the weight of the loaded descending wagons winding the empty ones up again to the quarries. A powerful locomotive pushed the loaded trains to the end of the work, where the stone was tipped into the sea, as much as 3,000 tons a day having been sunk at Portland. The total amount so committed to the deep was about 5,360,000 tons, and the area protected by the breakwater would accommodate sixty of the very largest men-of-war, and almost any number of smaller vessels.

"During the progress of the works," wrote Mr. Moule, "the engineer has from time to time instituted some highly interesting investigations into the structure of the Chesil Bank. . . . During a single night's gale, between three and four *millions of tons* weight of pebbles have been found to be swept away into the gulfs of the Atlantic, being gradually thrown back again in the three or four following days. The size of the pebbles had long been observed to vary greatly at the two opposite ends of the beach. At the western, or Abbotsbury end, they are exceedingly small, more resembling gravel than shingle. At the Portland end it is not uncommon to meet with them several inches in diameter, and several pounds in weight. This phenomenon has been explained by the very probable assumption that the pebbles are driven eastward by the wind-waves, and not moved by the slow and (for purposes like this) powerless tidal current. The larger pebbles, presenting a broad surface to the waves, are easily rolled forward, while the smaller ones are passed by, offering a less surface, and becoming more easily imbedded in the sand." It is said that a practised smuggler on that coast could tell his whereabouts on the bank in the darkest night or thickest fog, by feeling the size of the pebbles on which he stood. And smugglers and "wreckers" were once very numerous among the Portlanders. In these better days their courage and great personal strength has saved many a life and ship endangered off the bank.

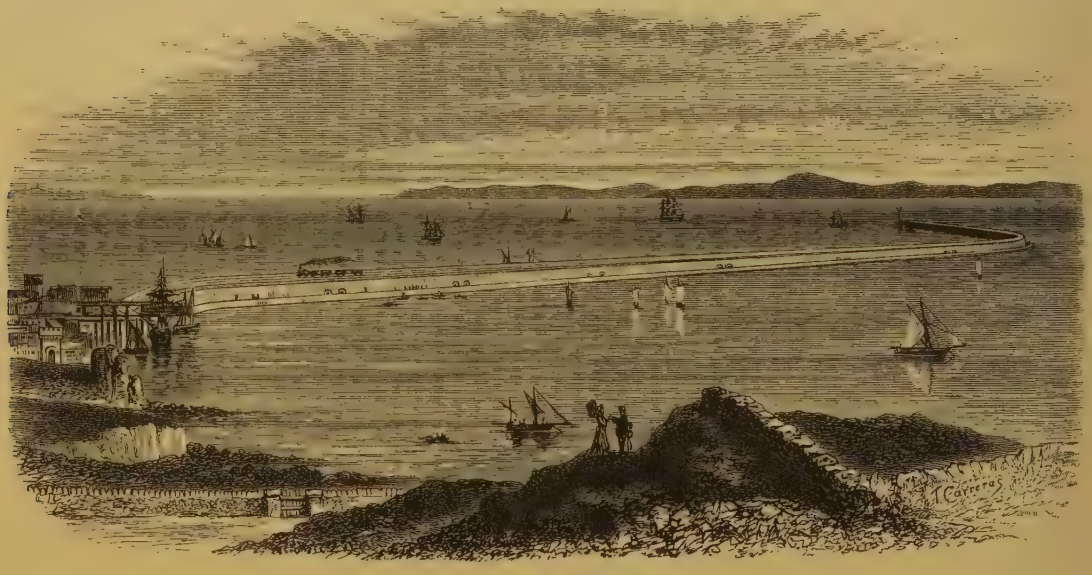
An old and popular song says that—

> "Britannia needs no bulwarks,
> No towers along the steep,"

but recent legislators have evidently not been so thoroughly satisfied of the fact, or they would not have authorised the construction of the great fortifications at Portland, which make it almost the Gibraltar of the Channel. The splendid breakwater there did not need protection. All the battering it is ever likely to get could not injure it seriously, and whatever ruins Macaulay's New Zealander may stand upon, they are not likely to be those of a great breakwater, each year of the existence of which renders it generally more compact. But it was for good reasons that the extensive works of Portland were undertaken. "We," said the *Times*, "of

all people in the world, who so toiled and suffered, lavishing blood and treasure under the walls of Sebastopol, should be the last to underrate the importance of a good fortification as a check to an invading army." The reader will hardly require any defence of such policy, for naval arsenals contain the very germ of our power, as the iron safe of the prudent man contains his valuables.

The Bill of Portland greatly resembles the situation of Gibraltar. There are the same bold, steep, rocky headlands; the breakwater stands in place of the Mole, and Chesil Bank connects it with the mainland, as the neutral ground does our great Mediterranean citadel with Spanish soil. "Its height, its isolation, and the harbour it commands, all pointed it out as a place for an impregnable—we had almost said an inaccessible—fortress. To the late Prince Consort is due the credit of having seen its vast importance in this respect, as it was also owing to



HOLYHEAD BREAKWATER.

his enlightened judgment that the breakwater was begun at last, and he himself laid the foundation-stone. Portland is rising, as we have said, into a first-class fortress, of which the Verne is the great key or citadel." So spoke the *Times*, in 1863; and now Portland is the best fortified port and naval station in the kingdom.

The Verne is a height which, like La Roche at Cherbourg, dominates over all around it for miles, especially on the side which overlooks the breakwater and the sea. On the north side it is protected by nearly perpendicular cliffs; elsewhere it is fully protected by art. One of its greatest defences is the dry ditch which completely encircles the whole work, except on the north side just mentioned, where it is both unnecessary and impossible. This ditch is one of the greatest ever undertaken in ancient or modern days. Its depth is 80 feet, and its width 100, and in some places 200 feet; its length is nearly a mile, and its floor is 368 feet up the hill-side. Nearly two million tons of stone had to be blasted to form it; and it would never have been excavated on the colossal scale indicated, but that all the said stone was utilised in building the breakwater. With this tremendous artificial ravine to

cross, with fortifications and bastions fully prepared with heavy Armstrong ordnance towering above, what enemy is ever likely to attack the citadel of the Verne? Our leading journal spoke of it as more compact than Cherbourg, Cronstadt, or Sebastopol, while it is more than three times their elevation above the sea.

Jutting out from the main fortress are two bastionettes, one of which has eight faces, mounting guns on each so as to sweep with a murderous fire two-thirds of the whole length of the fosse or ditch. The other is nearly as formidable, and both are pierced with loop-holes in all directions for the fire of riflemen. The great barracks in the enclosure of the Verne can, at a pinch, accommodate 10,000 men, the peace garrison being about a third of that number. The arrangements for water supply are perfect, great reserve tanks having been cut from the solid rock, and covered with shot-proof roofs. These are kept full, and, protected from air and light, the water is always sweet. Portland bristles with batteries; but the Verne commands everything in range of cannon, inside or outside the breakwater, including all parts of the island, and can cross fire with other important forts. It is probably the strongest fortified harbour in the world.

Other and important breakwaters, like that of Holyhead, which cost a couple of million sterling, and which is generally cited as an example of much money thrown into the sea; Alderney, which has swallowed up close on three-fourths of the above sum; and Dover, which has a fine *vertical* sea-wall, might be mentioned. Enough has been said to show the general importance of the subject to a maritime people, and that, on the whole, England has been fully alive to the fact. Indeed, counting large and small breakwaters and sea-walls, more has been expended in this country for these works than in any two or three foreign countries possessing sea-boards.

CHAPTER XIV.

The Greatest Storm in English History.

The Dangers of the Seas—England's Interest in the Matter—The Shipping and Docks of London and Liverpool—The Goodwin Sands and their History—The "Hovellers"—The Great Gale of 1703—Defoe's Graphic Account—Thirteen Vessels of the Royal Navy Lost—Accounts of Eye-witnesses—The Storm Universal over England—Great Damage and Loss of Life at Bristol—Plymouth—Portsmouth—Vessels Driven to Holland—At the Spurn Light—Inhumanity of Deal Townsmen—A worthy Mayor Saves 200 Lives—The Damage in the Thames—Vessels Drifting in all Directions—800 Boats Lost—Loss of Life on the River—On Shore—Remarkable Escapes and Casualties—London in a Condition of Wreck—Great Damage to Churches—A Bishop and his Lady Killed—A Remarkable Water-Spout—Total Losses Fearful.

"The dangers of the seas" are little enough to some countries, but to England they mean much indeed. Think of the maritime interests of the port of London, the docks of which cover considerably over 300 acres of water-space, and to which 7,000 or more vessels enter annually. Over 100 vessels, exclusive of small craft, enter the port daily; its exports form nearly one-fourth of the total exports of the United Kingdom. Liverpool in some maritime interests excels it. This, the second largest city in Great Britain, had, as late

as 1697, a population of only 5,000; 80 small vessels then belonged to the port. In this year of grace, Liverpool, with her virtual suburbs, Birkenhead and West Derby, has a population considerably over 700,000. In 1872, Liverpool exported, in British and Irish productions, a total value of £100,066,410, which meant little short of forty per cent. of the total exports, of the same kind, from the United Kingdom, while its imports of many staples exceeded those of London. Liverpool has nearly sixty docks and basins, extending along the Mersey for five miles. She possesses nineteen miles of quays, nearly the whole of which have been built since 1812, and warehouses on a scale of magnificence unknown elsewhere.

But such a commerce means much more. Hundreds of thousands of hardy men risk their lives that we may have bread and butter, sugar with our tea, and all the necessaries and luxuries of modern civilised life. England has not forgotten them, and for their use has built the lighthouse, the breakwater, and the harbour of refuge. But there are sources of danger which nearly defy human power. Take, among all dangerous shoals and sands, the Goodwin Sands as a prominent example; they are replete with danger to all sailing vessels at least, resorting to the Thames or to the North Sea, while even steamships have been lost on their treacherous banks.

These Sands, so well known to, and feared by, the mariner, are ten miles in length, running in a north-east and south-west direction off the east coast of Kent. They are divided into two portions by a narrow channel, and parts are uncovered at low water. When the tide recedes, the sand is firm and safe, but when the sea permeates it, the mass becomes pulpy, treacherous, and constantly shifting. Three light-vessels (one seven miles from Ramsgate) mark the most dangerous points, and these are themselves exposed to a considerable amount of danger. The only advantage derived from the existence of the Sands is that they form a kind of breakwater, securing a safe anchorage in the roadsteads of the Downs. But if the wind blows strongly off shore, let the mariner beware!

The ancients thought that Britain was distinguished from all the world by unpassable seas and northern winds. The shores of Albion were dreadful to sailors, and our island was for a time regarded as the utmost bounds of the northern known land, beyond which none had ever sailed.

These dangerous Goodwin Sands, if we may believe the chronicles, and there seems no reason why we should not, consisted at one time of about 4,000 acres of low coast land, fenced from the sea by a wall. One tradition, not usually credited, ascribes their present state to the erection of the Tenterden Steeple, by which the funds which should have maintained the sea-wall were diverted. An old authority, Lambard, says, "Whatsoever old wives tell of Goodwyne, Earle of Kent, in tyme of Edward the Confessour, and his sandes, it appeareth by Hector Boëtius, the Brittish chronicler, that theise sandes weare mayne land, and some tyme of the possession of Earl Goodwyne, and by a great inundation of the sea, they weare taken therefroe, at which tyme also much harme was done in Scotland and Flanders, by the same rage of the water." At the period of the Conquest, these lands were taken from Earl Goodwin and bestowed on the abbey of St. Augustine, Canterbury, and some accounts say that the Abbot allowed the sea-wall to become dilapidated, and that in the year 1100 the waves rushed in and overwhelmed the whole. The inroads of the sea in many parts of the world would account for anything of the kind.

In dangerous or foggy weather, bells are constantly sounded from the light-ships. A considerable amount of difficulty is experienced in finding proper anchorage for these vessels; and all efforts to establish a fixed beacon have been hitherto unsuccessful. In 1846 a light-house on piles *screwed* into the sands* was erected, but it was carried away the following year by the force of the waves. As soon as a vessel is known to have been driven on the Goodwins, rockets are thrown up from the light-ships, and as soon as recognised on shore a number of boatmen, known as "hovellers," all over that portion of the coast, immediately launch their boats, and make for the Sands, whatever may be the weather. The "hovellers" look upon the wreck itself as in part their property, and make a good deal of money at times, leading, as a rule, a thoroughly reckless sailor's life ashore. But how many poor seamen have had cause to bless their bravery and intrepidity!

The great gale of 1703, one of the most terrible, if not absolutely *the* most terrible which has ever visited our coasts, occasioned the loss of thirteen vessels of the Royal Navy, four on the Goodwin Sands, one in the Yarmouth Roads, one at the Nore, and the rest at various points on the coasts of England and Holland. The record, as preserved by the immortal author of "Robinson Crusoe," is terribly concise in its details. Take a part only of it. The italics are our own.

"*Reserve*, fourth-rate; 54 guns; 258 men. John Anderson, com. Lost in Yarmouth Roads. The captain, purser, master, chyrurgeon, clerk, and 16 men were ashore; *the rest drowned.*

"*Northumberland*, third-rate; 70 guns; 253 men. James Greenway, com. Lost on Goodwin Sands. *All their men lost.*

"*Restoration*, third-rate; 70 guns; 386 men. Fleetwood Emes, com. Lost on Goodwin Sands. *All their men lost.*

"*Sterling Castle*, third-rate; 70 guns; 349 men. John Johnson, com. Lost on Goodwin Sands. Third lieutenant, chaplain, cook, chyrurgeon's mate, four marine captains, and 62 men saved.

"*Mary*, fourth-rate; 64 guns; 273 men. Rear-Admiral Beaumont, Edward Hopson, com. Lost on Goodwin Sands. *Only one man saved*, by swimming from wreck to wreck, and getting to the *Sterling Castle*; the captain ashore, as also the purser." And so the sad story proceeds, Defoe adding that the loss of small vessels hired into the service, and tending the fleet, is not included, several such vessels, with soldiers on board, being driven to sea, and never heard of more.†

A master on board a vessel which was blown "out of the Downs to Norway," describes the sights he saw on those fatal days, the 25th and 26th of November, in homely but graphic language. He says: "By four o'clock we miss'd the *Mary* and the *Northumberland*, who rid not far from us, and found they were driven from their anchors; but what became of them, God knows. And soon after, a large man-of-war came driving down upon us, all her masts gone, and in a dreadful condition. We were in the utmost despair at this

* As described in the latter chapter on the lighthouse.

† This was the same gale which destroyed Winstanley's Eddystone Lighthouse, the first erected on the rock, as already described. It is to be noted that Winstanley's house, at Littlebury, in Essex, 200 miles from the lighthouse, fell down and was utterly destroyed in the same storm.

GREAT STORM IN THE DOWNS, 1703.

sight, for we saw no avoiding her coming thwart our haiser; she drove at last so near us, that I was just gowing to order the mate to cut away, when it pleas'd God the ship sheer'd contrary to our expectation to windward, and the man-of-war, which we found to be the *Sterling Castle*, drove clear of us, not two ships' lengths, to leeward.

"It was a sight full of terrible particulars to see a ship of eighty guns (*sic*) and about six hundred men* in that dismal case. She had cut away all her masts; the men were all in the confusion of death and despair; she had neither anchor, nor cable, nor boat to help her, the sea breaking over her in a terrible manner, that sometimes she seem'd all under water. And they knew, as well as we that saw her, that they drove by the tempest directly for the Goodwin, where they could expect nothing but destruction. The cries of the men, and the firing their guns, one by one, every half minute for help, terrified us in such a manner, that I think we were half dead with the horror of it." The same writer describes the collision of two vessels, which he saw sink together, and several great ships fast aground and beating to pieces. "One," says he, "we saw founder before our eyes, and all the people perish'd."

"We have," says Defoe, "an abundance of strange accounts from other parts, and particularly the following letter from the Downs, and though every circumstance in this letter is not literally true, as to the number of ships or lives lost, and the style coarse and sailor-like, yet I have inserted this letter, because it seems to describe the horror and consternation the poor sailors were in at that time; and because this is written from one who was as near an eye-witness as any could possibly be, and be safe.

"'SIR,—These lines I hope in God will find you in good health. We are all left here in a dismal condition, expecting every moment to be all drowned; for here is a great storm, and is very likely to continue. We have here the Rear-Admiral of the Blue in the ship called the *Mary*, a third-rate, the very next ship to ours, sunk, with Admiral Beaumont, and above 500 men drowned; the ship called the *Northumberland*, a third-rate, about 500 men, all sunk and drowned; the ship called the *Sterling Castle*, a third-rate, all sunk and drowned, above 500 souls; and the ship called the *Restoration*, a third-rate, all sunk and drowned. These ships were all close by us, which I saw. These ships fired their guns all night and day long, poor souls, for help, but the storm being so fierce and raging, could have none to save them. The ship called the *Shrewsbury*, that we are in, broke two anchors, and did run mighty fierce backwards, within sixty or eighty yards of the Sands, and as God Almighty would have it, we flung our sheet-anchor down, which is the biggest, and so stopt; here we all prayed God to forgive us our sins, and to save us, or else to receive us into his heavenly Kingdom. If our sheet-anchor had given way, we had been all drowned; but I humbly thank God, it was his gracious mercy that saved us. There's one, Captain Fanel's ship, three hospital ships, all split, some sunk, and most of the men drowned.

"'There are above forty merchant ships cast away and sunk; to see Admiral Beaumont, that was next us, and all the rest of his men, how they climbed up the main-mast, hundreds

* This narrative differs from the more circumstantial account given by Defoe, doubtless from official authorities. The vessel had seventy guns, and 349 men; the latter, likely enough, may not have been her full complement.

at a time crying out for help, and thinking to save their lives, and in the twinkling of an eye were drowned; I can give you no account, but of these four men-of-war aforesaid, which I saw with my own eyes, and those hospital ships, at present, by reason the storm hath drove us far distant from one another; Captain Crow, of our ship, believes we have lost several more ships of war, by reason we see so few; we lie here in great danger, and waiting for a north-easterly wind to bring us to Portsmouth, and it is our prayer to God for it; for we know not how soon this storm may arise, and cut us all off, for it is a dismal place to anchor in. I have not had my clothes off, nor a wink of sleep these four nights, and have got my death with cold almost.—Yours to command,

"'Miles Norcliffe.'"*

The following is also a characteristic letter from Captain Soanes of H.M.S. *Dolphin*, then at Milford Haven, showing also how far the storm extended on our coasts :—

"Sir,—Reading the advertisement in the *Gazette* of your intending to print the many sad accidents in the late dreadful storm, induced me to let you know what this place felt, though a very good harbour. Her Majesty's ships the *Cumberland*, *Coventry*, *Loo*, *Hastings*, and *Hector*, being under my command, with the *Rye*, a cruiser on this station, and under our convoy, about 130 merchant ships bound about land; the 26th of November, at one in the afternoon, the wind came at S. by E. a hard gale, between which and N.W. by W. it came to a dreadful storm; at three the next morning was the violentest of the weather, when the *Cumberland* broke her sheet-anchor, the ship driving near this, and the *Rye* both narrowly escap'd carrying away; she drove very near the rocks, having but one anchor left, but in a little time they slung a gun, with the broken anchor fast to it, which they let go, and wonderfully preserved the ship from the shore. Guns firing from one ship or other all the night for help, though 'twas impossible to assist each other, the sea was so high, and the darkness of the night such, that we could not see where any one was, but by the flashes of the guns; when daylight appeared, it was a dismal sight to behold the ships driving up and down, one foul of another, without masts, some sunk, and others upon the rocks, the wind blowing so hard, with thunder, lightning, and rain, that on the deck a man could not stand without holding. Some drove from Dale, where they were sheltered under the land, and split in pieces, the men all drowned; two others drove out of a creek, one on the shore so high up was saved; the other on the rocks in another creek, and bulged; an Irish ship that lay with a rock through her, was lifted by the sea clear away to the other side of the creek on a safe place; one ship forced ten miles up the river before she could be stopped, and several strangely blown into holes, and on banks; a ketch, of Pembroke, was drove on the rocks, the two men and a boy in her had no boat to save their lives, but in this great distress a boat which broke from another ship drove by them, without any in her, the two men leaped into her and were saved, but the boy was drowned. A prize at Pembroke was lifted on the bridge, whereon is a mill, which the water blew up, but the vessel got off again; another vessel carried almost into the gateway which leads to the

* A large part of the information incorporated above is derived from one of the least known of Defoe's works, entitled, "The Storm: or, a Collection of the most Remarkable Casualities and Disasters which happened in the Late Dreadful Tempest, both by Sea and Land."

bridge, and is a road, the tide flowing several feet above the common course. The storm continued till the 27th, about three in the afternoon; that by computation nigh thirty merchant ships and vessels without masts are lost, and what men are lost is not known; three ships are missing, that we suppose men and all lost. None of her Majesty's ships came to any harm; but the *Cumberland* breaking her anchor in a storm which happen'd the 18th at night, lost another, which renders her incapable of proceeding with us till supplied. I saw several trees and houses which are blown down.—Your humble servant,

"Jos. Soanes."

The disasters caused by this terrible gale extended over the English coasts. At Bristol the tide filled the merchants' cellars, spoiling 1,000 hogsheads of sugar, 1,500 hogsheads of tobacco, and any quantity of other produce, the damage being estimated at £100,000. Eighty people were drowned in the marshes and river. Among the shipping casualties, the *Canterbury* store-ship went ashore, and twenty-five men were drowned from her. The Severn overflowed the country, doing great damage at Gloucester; and 15,000 sheep were drowned on the levels and marshes. Four merchant ships were lost in Plymouth Roads, and most of the men were drowned. At Portsmouth a number of vessels were blown to sea, and some of them never heard of more. About a dozen ships were driven from our coasts to Holland, the crews, for the most part, being saved. At Dunkirk, twenty-three or more vessels were dashed to pieces against the pier-head.

Mr. Peter Walls, master or chief lighthouse-keeper of the Spurn Light at the mouth of the Humber, was present on the 26th of November, the fatal night of the storm. He thought that his lighthouse must have been blown down, and the tempest made the fire in it burn so fiercely that "it melted down the iron bars, on which it laid, like lead," so that they were obliged when the fire was nearly extinguished to put in fresh bars, and re-kindle the fire, keeping it up till the morning dawn, when they found that some six or seven-and-twenty sail of ships were driving helplessly about the Spurn Head, some having cut, and others broken their cables. These were a part of two fleets then lying in the Humber, having put in there by stress of weather a day or two before. Three ships were driven on an island called the Don. The first no sooner touched bottom than she completely capsized, turning keel up; strange to say, out of six men on board, only one was drowned, the other five being rescued by the boat of the second ship. They landed at the Spurn Lighthouse, where Mr. Walls got them good fires and all the comforts they needed. The second ship, having nobody on board, was driven to sea and never seen or heard of more. The third broke up, and next morning some coals that had been in her were all that was to be seen. Of the whole number of vessels in the Humber, few, if any, were saved.

Defoe estimates that 150 sea-going vessels of all sorts were lost in this terrific gale; but this is, in all probability, a very low estimate. And it is as nothing to the fearful loss of life, which amounted to 8,000 souls.

The townspeople of Deal, in particular, were blamed for their inhumanity in leaving many to their fate who could have been rescued. Boatmen went off to the sands for booty, some of whom would not listen to poor wretches who might have been saved. Many unfortunate shipwrecked persons could be seen, by the aid of glasses, walking on the Goodwin

Sands in despairing postures, knowing that they would, as Defoe puts it, "be washed into another world" at the reflux of the tide. The Mayor of Deal, Mr. Thomas Powell, asked the Custom House officers to take out their boats and endeavour to save the lives of some of these unfortunates, but they utterly refused. The mayor then offered, from his own pocket, five shillings a head for all saved, and a number of fishermen and others volunteered, and succeeded in bringing 200 persons on shore, who would have been lost in half an hour afterwards. The Queen's agent for sick and wounded seamen would not furnish a penny for their lodging or food, and the good mayor supplied all of them with what they required. Several died, and he was compelled to bury them at his own expense; he furnished a large

THE STORM IN THE THAMES AT WAPPING.

number with money to pay their way to London. He received no thanks from the Government of the day, but some long time after was re-imbursed the large sums he had expended.

"Nor," says Defoe, "can the damage suffered in the river of Thames be forgot. It was a strange sight to see all the ships in the river blown away, the Pool was so clear, that, as I remember, not above four ships were left between the upper part of Wapping and Ratcliffe Cross, for the tide being up at the time when the storm blew with the greatest violence, no anchors or landfast, no cables or moorings, would hold them, the chains which lay across the river for the mooring of ships, all gave way.

"The ships breaking loose thus, it must be a strange sight to see the hurry and confusion of it; and, as some ships had nobody at all on board, and a great many had none but a man or boy just to look after the vessel, there was nothing to be done but to let every vessel drive whither and how she would.

"Those who know the reaches of the river, and how they lie, know well enough that the wind being at south-west-westerly, the vessels would naturally drive into the bite

or bay from Ratcliffe Cross to Limehouse Hole, for that the river winding about again from thence towards the new dock at Deptford runs almost due south-west, so that the wind blew down one reach and up another, and the ships must of necessity drive into the bottom of the angle between both.

"This was the case, and as the place is not large, and the number of ships very great, the force of the wind had driven them so into one another, and laid them so upon one another, as it were in heaps, that I think a man may safely defy all the world to do the like.

"The author of this collection had the curiosity the next day to view the place, and

THE WEST-INDIAMEN DRIVEN ASHORE AT TILBURY FORT.

to observe the posture they lay in, which nevertheless it is impossible to describe; there lay, by the best account he could take, few less than seven hundred sail of ships, some very great ones, between Shadwell and Limehouse inclusive; the posture is not to be imagined but by them that saw it; some vessels lay heeling off with the bow of another ship over her waist, and the stern of another upon her forecastle; the boltsprits of some drove into the cabin-windows of others; some lay with their sterns tossed up so high that the tide flowed into their forecastles before they could come to rights; some lay so leaning upon others that the undermost vessels would sink before the other could float; the numbers of masts, boltsprits and yards split and broke, the staving the heads and sterns,

and carved work, the tearing and destruction of rigging, and the squeezing of boats to pieces between the ships, is not to be reckoned; but there was hardly a vessel to be seen that had not suffered some damage or other in one or all of these articles.

"There were several vessels sunk in this hurricane, but as they were generally light ships the damage was chiefly to the vessels; but there were two ships sunk with great quantity of goods on board: the *Russell* galley was sunk at Limehouse, being a great part laden with bale goods for the Straits; and the *Sarah* galley, laden for Leghorn, sunk at an anchor at Blackwall, and though she was afterwards weighed and brought on shore, yet her back was broken, or so otherwise disabled that she was never fit for the sea. There were several men drowned in these last two vessels, but we could never come to have the particular number.

"Near Gravesend several ships drove on shore below Tilbury Fort, and among them five bound for the West Indies; but as the shore is oozy and soft, the vessels sat upright and easy." The loss of small craft in the river was enormous; not less than 300 ships' boats and 500 wherries were sunk or dashed to pieces. Barges and lighters were sunk and broke loose by the score, and twenty-two watermen and others working on the river were drowned.

The effect of this tempest was felt very severely on shore, not less than 123 persons being killed by falling buildings, &c. It is said that not less than 800 dwellings were blown down, while barns, stacks of chimneys, pinnacles, steeples, and trees, were strewed all over the country.

Dozens of remarkable cases might be given of wonderful preservations at sea during this storm, and one or two have been cited. A small vessel ran on the rocks in Milford Haven and was fast breaking up, when an empty boat, which had got loose, drifted past so near the wreck that two men jumped into it and saved their lives. A poor boy on board could not jump so far, and was drowned. A poor sailor of Brighthelmston was taken off a wreck after he had hung by his hands and feet on the top of a mast for eight-and-forty hours, the sea raging so high that no boat durst approach him. A waterman in the river Thames, lying asleep in the cabin of a barge near Blackfriars, was driven below London Bridge, "and the barge went of herself into the Tower Dock, and lay safe on shore. The man never waked nor heard the storm till it was day; and, to his great astonishment, he found himself safe, as above." Two boys, lodging in the Poultry, and living in a top garret, were, by the fall of chimneys, which broke through the floors, carried quite to the bottom of the cellar, and received no hurt at all.

It has been shown how universal was the storm on the English coasts, and it extended to all parts of the interior.* In Norfolk, a small town experienced the horrors

* Although so severe in England and a large part of the Continent, Scotland scarce felt the fury of the gale. Defoe, in his poem on the subject, says:—

"They tell us Scotland 'scaped the blast;
No nation else have been without a taste:
All Europe sure have felt the mighty shock,
'T has been a universal stroke.
But heaven has other ways to plague the Scots,
As poverty and plots."

of fire simultaneously with the gale. The inhabitants were powerless to extinguish it; and the wind blew the ruins, almost as much as the fire, in all directions. If the people came to windward they were in danger of being blown into the flames, and to leeward they dared not approach the fire, which would have scorched them up. Those who escaped the conflagration ran the imminent risk of being knocked on the head by bricks and tiles, which flew about as though they were tinder. The storm, although most severe on the Friday before-mentioned, lasted almost continuously for a week.

The city of London was a strange spectacle at this time. "The houses looked like skeletons," says Defoe, "and an universal air of horror seemed to sit on the countenances of the people. All business seemed to be laid aside for the time, and people were generally intent upon getting help to repair their habitations." The streets lay covered with tiles and slates, bricks and chimney-pots. Common tiles rose from 21s. per thousand to £6. Above 2,000 great stacks of chimneys were blown down in and about London, besides gable-ends and roofs by the score, and about twenty whole houses in the suburbs. In addition to those killed by the fall of various parts of buildings, above 200 were reported as wounded and maimed. And it must be remembered that these were not the days of morning and evening and special editions, and copious and generally correct reports. Had telegraphs and railways and steamships brought in the news collected by innumerable correspondents, as they would to-day, Defoe's book would never have been compiled. And it may be here observed, in honour of the memory of that immortal author, that he never cites a case, or speaks of it as a positive fact, without giving his authority or authorities. He says in one place, "Some of our printed accounts give us larger and plainer accounts of the loss of lives than I will venture to affirm for truth: as of several houses near Moorfields levelled with the ground; fourteen people drowned in a wherry going to Gravesend and five in a wherry from Chelsea. Not that it is not very probable to be true, but, as I resolve not to hand anything to posterity but what comes very well attested, I omit such relations as I have not extraordinary assurance as to the fact." This is hardly the way with all book-makers!

Most of those killed were buried or crushed by the broken fragments and rubbish of falling stacks of chimneys or walls. The fall of brick walls made a serious item in the losses. At Greenwich Park several pieces of the wall were down for a hundred rods at a place; the palace of St. James's was greatly damaged; the roof of the guard-house at Whitehall blown off, seriously hurting nine soldiers; the lead stripped off and rolled up like parchment from scores of churches and public buildings, including Westminster Abbey and Christ Church Hospital. "It was very remarkable," Defoe notes, "that the bridge over the Thames [*i.e.*, Old London Bridge] received so little damage, the buildings standing high and not sheltered by other erections, as they would be in the streets. Above a hundred elms, some of them said to have been planted by Wolsey, were blown down in St. James's Park. Very fortunately the storm was succeeded by fine weather: for had rain or snow followed, the misery and damage to hundreds and hundreds of tenants would have been fearfully increased.

At Stowmarket, in Suffolk, one of the largest spires—100 feet high above the steeple—was completely carried away, with all its heavy timbers and an immense quantity

of lead. So in Brenchly and Great Peckham, Kent, the former doing damage to the church and porch as it fell, and entailing a total loss of £800 to £1,000, which would represent much more in these days. "The cathedral church of Ely," said one of Defoe's correspondents, "by the providence of God, did, contrary to all men's expectations, stand out the shock, but suffered very much in every part of it, especially that which is called the body of it, the lead being torn and rent up a considerable way together; about 40 lights of glass blown down and shattered to pieces; one ornamental pinnacle, belonging to the north aisle, demolished; and the lead in divers other parts of it blown up into great heaps. Five chimneys falling down in a place called the Colledge, the place where the prebendaries' lodgings are, did no other damage (prais'd be God!) than beat down some part of the houses along with them. The loss which the church and college of Ely sustained being, by computation, near £2,000." Accounts of nearly irretrievable damage done to valuable painted church windows, for one of which—at Fairford, Gloucester—£1,500 had been offered, came from many points. In some cases the lead blown from roofs, amounting to tons in weight, was so tightly rolled up that it took a number of men to unroll it without cutting or other damage.

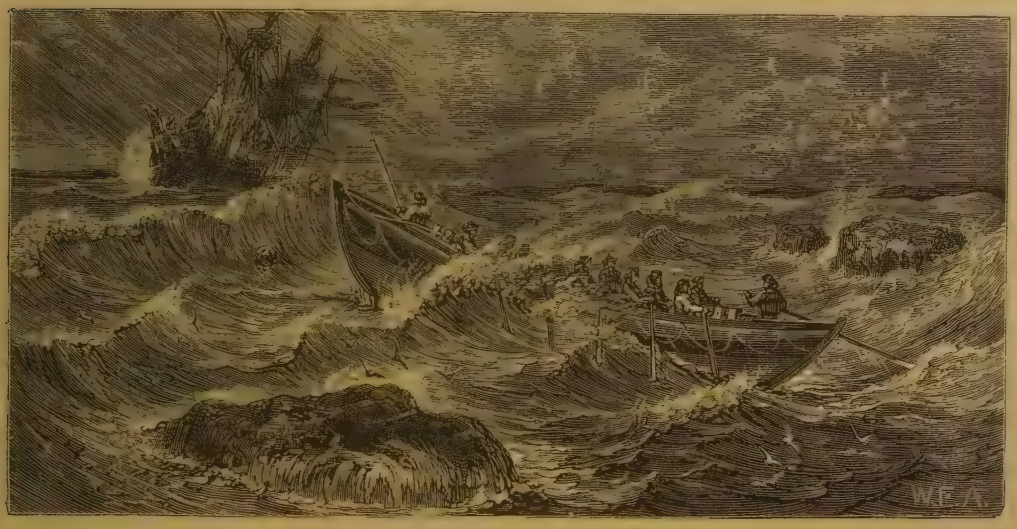
The Bishop of Bath and Wells was killed under rather remarkable circumstances. The palace was the relic of a very old castle, only one corner of it being modernised for his lordship's use. Had the bishop slept in the new portion his life would have been spared; but he remained in one of the older apartments. Two chimney-stacks fell and crushed in the roof, driving it upon the bishop's bed, forcing it quite through the next floor into the hall, and burying both himself and lady in the rubbish. The former appears to have risen, perhaps perceiving the approaching danger, and was found, with his brains dashed out, near a doorway.

One of the most remarkable cases of the power of the wind ashore was the removal of a stone of four hundredweight, which lay sheltered under a bank, to a distance of seven yards. On the Kingscote estate, in Gloucester, 600 trees, all about eighty feet in height, were thrown down within a compass of five acres. The storm was accompanied by thunder and lightning and waterspouts. A clergyman, writing from Besselsleigh, says:—"On Friday, the 26th of November, in the afternoon, about four of the clock, a country fellow came running to me, in a great fright, and very earnestly entreated me to go and see a pillar, as he called it, in the air in a field hard by. I went with the fellow, and when I came found it to be a spout marching directly with the wind; and I can think of nothing I can compare it to better than the trunk of an elephant, which it resembled—only much bigger. It was extended to a great length, and swept the ground as it went, leaving a mark behind. It crossed a field, and, which was very strange (and which I should scarce have been induced to believe had I not myself seen it, besides several countrymen, who were astonished at it, meeting with an oak that stood towards the middle of the field, snapped the body of it asunder. Afterwards, crossing a road, it sucked up the water that was in the cart-ruts. Then, coming to an old barn, it tumbled it down, and the thatch that was on the top was carried about by the wind, which was then very high and in great confusion. After this I followed it no farther, and therefore saw no more of it, but a parishioner of mine, going from hence to Hincksey, in a field

A LIFE-BOAT GOING OUT.

about a quarter of a mile off of this place, was on the sudden knocked down and lay upon the place till some people came by and brought him home; and he is not yet quite recovered." An earthquake is also said to have followed the great storm.

Enough has now been written to show how universal were the effects of this terrible gale. The details, as recorded by Defoe and others, would fill several chapters like the present. The author of "Robinson Crusoe" puts, as we have seen, the loss of life partly on land but principally by sea, at 8,000, but a French authority places it at the enormous number of 30,000! It can well be believed that a large proportion of the casualties were never reported or recorded.



GREATHEAD'S LIFE-BOAT.

CHAPTER XV.

"MAN THE LIFE-BOAT!"

The Englishman's direct interest in the Sea—The History of the Life-boat and its Work—Its Origin—A Coach-builder the First Inventor—Lionel Lukin's Boat—Royal Encouragement—Wreck of the *Adventure*—The Poor Crew Drowned in Sight of Thousands—Good out of Evil—The South Shields Committee and their Prize Boat—Wouldhave and Greathead—The latter Rewarded by Government, &c.—Slow Progress of the Life-boat Movement—The Old Boat at Redcar—Organisation of the National Life-boat Institution—Sir William Hillary's Brave Deeds—Terrible Losses at the Isle of Man—Loss of Three Life-boats—Reorganisation of the Society—Immense Competition for a Prize—Beeching's "Self-righting" Boats—Buoyancy and Ballast—Dangers of the Service—A Year's Wrecks.

THE history of the life-boat is one that concerns every Englishman. In this isle of the sea, our own beloved Britain, our sympathies are constantly excited on behalf of those who suffer from shipwreck. It would not be too much to say that one-half the population of the United Kingdom have some direct interest in this matter. Let us not be misunderstood. Pecuniary interests in shipping are held here more largely than in any other country, but

we are not all shipowners or merchants. But how many of us have some brother or friend a seafarer! Of the writer's own direct relatives six have travelled and voyaged to very far distant lands, and the friends of whom the same might be said would aggregate several score. This is no uncommon case.

The origin of the life-boat, as now understood, is of very modern date. Those who would study the matter in its entirety cannot do better than consult the work* from which the larger part of the material incorporated in the present chapter is derived. One of the very earliest inventors of a life-boat was Mr. Lionel Lukin, a coach-builder of Long Acre, who turned his attention to the subject in 1784, from purely benevolent motives. The then Prince of Wales (afterwards George IV.), who knew Lukin personally, not only encouraged him to test his inventions, but offered to pay the expenses. Lukin purchased a Norway yawl, to the outer frame of which he added a projecting gunwale of cork, tapering from nine inches amidships to very little at the bows and stern. Hollow water-tight enclosures gave it great buoyancy, while ballast sufficient for stability was afforded by a heavy false keel of iron. On this principle several boats were constructed, and found to be, as the inventor describes them, "unimmergible." The Rev. Dr. Shairp, of Bamborough, hearing of the invention, and having charge of a charity for saving life at sea, sent a boat to Lukin to be made "unimmergible." This was done, and satisfactory accounts were afterwards received of the altered boat, which was reported to have saved several lives in the first year of its use. The Admiralty and Trinity House would have nothing to do with it, in spite of the Prince of Wales' interest in the matter. It has been said that a committee is a body without a conscience; it was true in those good old days. Lukin retired from business in 1824, and went to live at Hythe in Kent, where, ten years after, he died; the inscription on his tomb in Hythe churchyard says that he was the first to build a life-boat.

Notwithstanding Lukin's increasing efforts to bring his life-boats into general use, hardly any progress had been make in their general adoption till 1789, when the *Adventure*, of Newcastle, was wrecked at the mouth of the Tyne. While this vessel lay stranded on a dangerous sand at the entrance of the river, in the midst of tremendous breakers, her crew "dropped off one by one from the rigging," only three hundred yards from the shore, and in the presence of thousands of spectators. This horrible disaster led to good results, for a committee was immediately appointed at a meeting of the inhabitants of South Shields, and premiums offered for the best model of a life-boat "calculated to brave the dangers of the sea, particularly of broken water." From many plans submitted two were selected, those of Mr. William Wouldhave and Mr. Henry Greathead. The idea of the first is said to have been suggested by the following circumstance. Wouldhave had been asked to assist a woman in putting a "skeel of water on her head, when he noticed that she had a piece of a broken wooden dish lying in the water, which floated with the points upwards, and turning it over several times, he found that it always righted itself. Greathead's model had a curved instead of a straight keel, and he, as the only practical boatbuilder who had competed, was awarded the premium, some of Wouldhave's ideas in regard to the use of cork being incorporated. This first boat, thirty feet in length, had a cork lining twelve inches thick, reaching

* "History of the Life-boat and its Work," by Richard Lewis, of the Inner Temple, Esq., Secretary of the National Life-boat Institution.

from the deck to the thwarts, and a cork fender outside sixteen inches deep, four inches wide, and twenty-one feet long, nearly 7 cwts. of cork being fitted to the boat altogether. Greathead's curved keel was, however, the main point, and he is regarded as the inventor of the first practicable life-boat. From 1791 to 1797 his first boat was the means of saving the whole or larger part of the crews of five ships. Notwithstanding all this, no other life-boat was built till 1798, when the then Duke of Northumberland ordered one to be built at his own expense, which in two years saved the crews of three vessels. Others were soon after constructed, and before the end of 1803 Greathead built no less than thirty-one, eight of which were for foreign countries. In the beginning of 1802, when two hundred lives had been saved at the entrance of the Tyne alone, Greathead applied to Parliament for a national reward. Possibly it is more remarkable that he obtained it. £1,200 was voted to him, to which the Trinity House, Lloyd's, and the Society of Arts added substantial presents. The Emperor of Russia sent a diamond ring to the inventor.

After this, one might have reasonably thought that life-boats had become a recognised institution and a national necessity. Not so. For years afterwards there was hardly an advance made, and there was no organised society to work them. The Government was apathetic. In 1810, one of Greathead's life-boats, carried overland to Hartley on the coast of Northumberland, rescued the crews of several fishing-boats. On returning toward the shore, the boat got too near a fatal rock-reef, and was split in halves; thirty-four poor fellows —a moment before the savers and the saved—were drowned. The authority before cited says that even now several of Greathead's boats—exclusively rowing boats—are to be found on the coast; the oldest one is that in the possession of the boatmen at Redcar, it having been built in 1802. On seeing this fine old life-boat, which had saved some scores of lives, Viscount Stratford de Redcliffe composed some years ago the following verses, which were set to music:—

"The Life-boat! Oh, the Life-boat!
We all have known so long,
A refuge for the feeble,
The glory of the strong.
Twice thirty years have vanished,
Since first upon the wave
She housed the drowning mariner,
And snatched him from the grave.

* * * *

The voices of the rescued,
Their numbers may be read,
The tears of speechless feeling
Our wives and children shed;
The memories of mercy
In man's extremest need,
All for the dear old Life-boat
Uniting seem to plead."

As already stated, the important movement for saving life from shipwreck languished for some time. To Sir William Hillary and Thomas Wilson, then one of the Members of Parliament for London, is due the organisation of that most excellent society which has done more in the cause of humanity than, perhaps, any other whatever, and has done it on means which even

to-day are too limited. Sir William Hillary was not a talker or subscriber merely, but had been personally active in saving life. When a Government cutter, the *Vigilant*, was wrecked in Douglas Bay, Isle of Man, where he was then residing, he was one of the foremost in rescuing a part of the crew. Listen to our authority: "Between the years 1821 and 1846, no fewer than 144 wrecks had taken place on the island, and 172 lives were lost; while the destruction of property was estimated at a quarter of a million. In 1825, when the *City of Glasgow* steamer was stranded in Douglas Bay, Sir William Hillary assisted in saving the lives of sixty-two persons; and in the same year eleven men from the brig *Leopard*, and nine from the sloop *Fancy*, which became a total wreck. In 1827—32, Sir William, accompanied by his son, saved many other lives; but his greatest success was on the 20th of November, 1830, when he saved in the life-boat twenty-two men, the whole of the crew of the mail steamer *St. George*, which became a total wreck on St. Mary's Rock. On this occasion he was washed overboard among the wreck, with other three persons, and was saved with great difficulty, having had six of his ribs fractured." No wonder that a genuine hero of this character should have succeeded in obtaining the assistance and encouragement of His Majesty King George IV., and any number of royal highnesses, archbishops, bishops, noblemen, and other distinguished people,* when the formation of a "Royal National Institution for the Preservation of Life from Shipwreck" was mooted. The Society was immediately organised, and the receipts for the first year of its existence were £9,800 odd. The Committee, in their first report, were able to state that they had built and stationed twelve life-boats, while, doubtless, from their good example, thirty-nine life-boats had been stationed on our shores by benevolent individuals and associations not connected with the Institution. In its early days, the Society assisted local bodies to place life-boats on the coast, such being independent of its control. The good work done by the Association in its early days is indicated in the following statement. In the second annual report the Committee showed that up to that period the Society had contributed to the saving of 342 lives from shipwreck, either by its own life-saving apparatus or by other means, for which it had granted rewards. And its total revenue for the second year was only £3,392 7s. 5d.! † For fifteen years afterwards the annual receipts were still smaller.

Between 1841 and 1850 the Institution lost three life-boats, and this was the smallest part of the loss. In October, 1841, one of the boats at Blyth, Northumberland, while being pulled against a strong wind, was struck by a heavy sea, causing her to run stern under, and to half fill with water. A second sea struck her, and she capsized. Ten men were drowned. The second case occurred at Robin Hood's Bay, on the coast of Yorkshire, in February, 1843. The life-boat went off to the assistance of a stranded vessel, the *Ann*, of London, during a fresh northerly gale. The life-boat had got alongside the wreck, and was taking the crew off, when, as far as can be understood, several men jumped into her at the moment when a great wave struck her, and she capsized. Many of the crew got on her bottom, while three remained underneath her, and in this state she drifted towards the shore on the opposite side of the bay. On seeing the accident from the shore, five gallant fellows launched a boat and tried to pull off to the rescue, but had hardly encountered two seas, when she was turned *end over end*, two of

* Including the grand name of William Wilberforce.

† Its revenue is now approximately ten times the above amount.

her crew being drowned. An officer of the Coastguard service and eleven men lost their lives on this occasion; a few were saved, coming to shore safely on the bottom of the life-boat, and even under it, in its reversed condition.

A still worse accident occurred, in December, 1849, to the South Shields life-boat, which had gone out with twenty-four experienced pilots to the aid of the *Betsy* of Littlehampton, stranded on the Herd Sand. She had reached the wreck, and was lying alongside, though badly secured. The shipwrecked men were about to descend into the boat, when a heavy sea, recoiling from the bows of the vessel, lifted her on end, and a second sea completed the work of destruction by throwing her completely over. She ultimately drifted ashore. Twenty out of twenty-four on board were drowned. On seeing the accident, two other life-boats immediately dashed off, and saved four of the pilots and the crew of the *Betsy*.

LIFE-BOAT SAVING THE CREW OF THE "ST. GEORGE."

The year 1850 marked an epoch in the history of life-boats, for then the Institution was thoroughly re-organised. It was arranged that the boats should be periodically inspected by qualified officers, and that a fixed scale of payment, both for actual service or quarterly exercise, should be made to the coxswains and crews.* His Grace the late Duke of Northumberland offered a prize of one hundred guineas for the best model of a life-boat, and a like sum towards constructing a boat on that model. No less than 280 plans and models were sent in, not merely from all parts of the United Kingdom, but from France, Holland, Germany, and the United States. After some six months' detailed examination on the part of the committee, Mr. James Beeching, of Great Yarmouth, was awarded the prize. That gentleman constructed several boats shortly afterwards, embodying most or

* For the perilous nature of the employment, the pay is ridiculously small. It must be, however, in fairness to the Institution, remembered that it is a society depending on the benevolent public for its support, and is not a Government concern. Each boat has its appointed coxswain at a salary of £8 per annum, and assistants at £2 per annum. On every occasion of going afloat to save life, the coxswain and his men receive alike, 10s. if by day, and £1 if by night.

all of the leading improvements, and was the first to build a "self-righting" life-boat. All of the Institution's modern boats are on this principle.

"The chief peculiarity of a life-boat," says our authority, "which distinguishes it from all ordinary boats, is its being rendered unsubmergible, by attaching to it, chiefly within boards, water-tight air-cases, or fixed water-tight compartments under a deck. . . . Especially it is essential that the spare space along the sides of a life-boat, within boards, should be entirely occupied by buoyant cases or compartments; as when such is the case, on her shipping a sea, the water, until got rid off, is confined to the midships part of the boat, where, to a great extent, it serves as ballast, instead of falling over to the lee-side, and destroying her equilibrium, as is the case in an ordinary open boat." The Institution's self-righting boats are ballasted with *heavy* iron keels (up to 21 cwts.), and *light* air-tight cases, cork, &c. The advantage of employing a ballast of less specific gravity than water is, that in the event of the boat being stove in, the buoyancy of the material itself then comes into play.

"Self-righting" is, of course, a most important principle in life-boats, and out of some 250 boats of the Institution there are scarcely more than twenty which do not possess it. Up to twenty years or so ago it was derided by many otherwise practical men. Yet as early as 1792 we find the Rev. James Bremner, of Walls, Orkney, proposing to make all ordinary boats capable of righting themselves in the water by placing two water-tight casks, parallel to each other, in the head and stern sheets, and by affixing a heavy iron keel. The self-righting power of to-day is obtained by the following means. The boat is built with considerably higher gunwales at the bows and stern than in the centre, while four to six feet of the space at either end are water-tight air-chambers. A heavy iron keel is attached, and a nearly equal weight of light air-cases, and cork ballast cases are stowed betwixt the boat's floor and the deck. "No other measures are necessary to be taken in order to effect the self-righting power. When the boat is forcibly placed in the water with her keel upwards, she is floated unsteadily on the two air chambers at bow and stern, while the heavy iron keel and other ballast then being carried above the centre of gravity, an unstable equilibrium is at once effected, in which dilemma the boat cannot remain, the raised weight falls on one side or the other of the centre of gravity, and drags the boat round to her ordinary position, when the water shipped during the evolution quickly escapes through the relieving tubes, and she is again ready for any service that may be required of her."

Nearly all life-boat stations are provided with a transporting carriage, built especially for the particular boat. The use of this, in many cases, is to convey the boat by land to the point nearest the wreck. On some coasts the distance may be several miles. In addition to this, a boat-carriage is of immense service in launching a boat from a beach without her keel touching the ground; so much so, indeed, that one can be readily launched from a carriage through a high surf, when without one she could not be got off the beach. The carriage is often backed sufficiently far into the water to enable the boat to float when she is run off.

The foregoing will give a sufficient idea of the boat itself, and now to its work. Courage and ability are required to put it into action, and the dangers to which the crew of a life-boat are exposed entitle those who encounter them to the greatest honour. "It is impossible

to exaggerate the awful circumstances attending a shipwreck. Let us picture the time, when, after a peaceful sunset and the toils of the day are over, the hero of the life-boat has retired to rest, and the silence of the night is unbroken except by the murmur of the winds and the noise of the sea breaking on the shore. With the approach of the storm, however, the winds and waves rise in fury upon the deep, and with their mingled vengeance lash the cliffs and the beach. A signal of distress arouses the coxswain and his men; crowds rush in curiosity to the cliffs, or line the shore, heedless of the driving rain or the blinding sleet. Barrels of tar are lighted on the coast, and the signal gun and the fiery rocket make a fresh appeal to the brave. The boat-house is unlocked, and the life-boat with her crew is dragged hurriedly to the shore. The storm rages wildly, and the mountains of surf and sea appal the stoutest heart. The gallant men look dubiously at the work before them, and fathers and mothers and wives and children implore them to desist from a hopeless enterprise. The voice of the coxswain, however, prevails. The life-boat is launched among the breakers, cutting bravely through the foaming mass—now buried under the swelling billows, or rising on their summit—now dashed against the hapless wreck still instinct with life—now driven from it by a mountain wave—now embarking its living freight, and carrying them, through storm and danger and darkness, to a blessed shore. Would that this was the invariable issue of a life-boat service! The boat that adventures to a wreck meets with disaster itself occasionally; and in the war of the elements some of its gallant crew have sometimes been the first of its victims." And when we consider that the number of wrecks on the coasts of the United Kingdom alone, averaged 1,446 per annum for the twenty years between 1852 and 1871, we can form an idea of the importance of life-boat work on these shores. In the succeeding chapter some special instances of perilous and successful rescues will be presented.

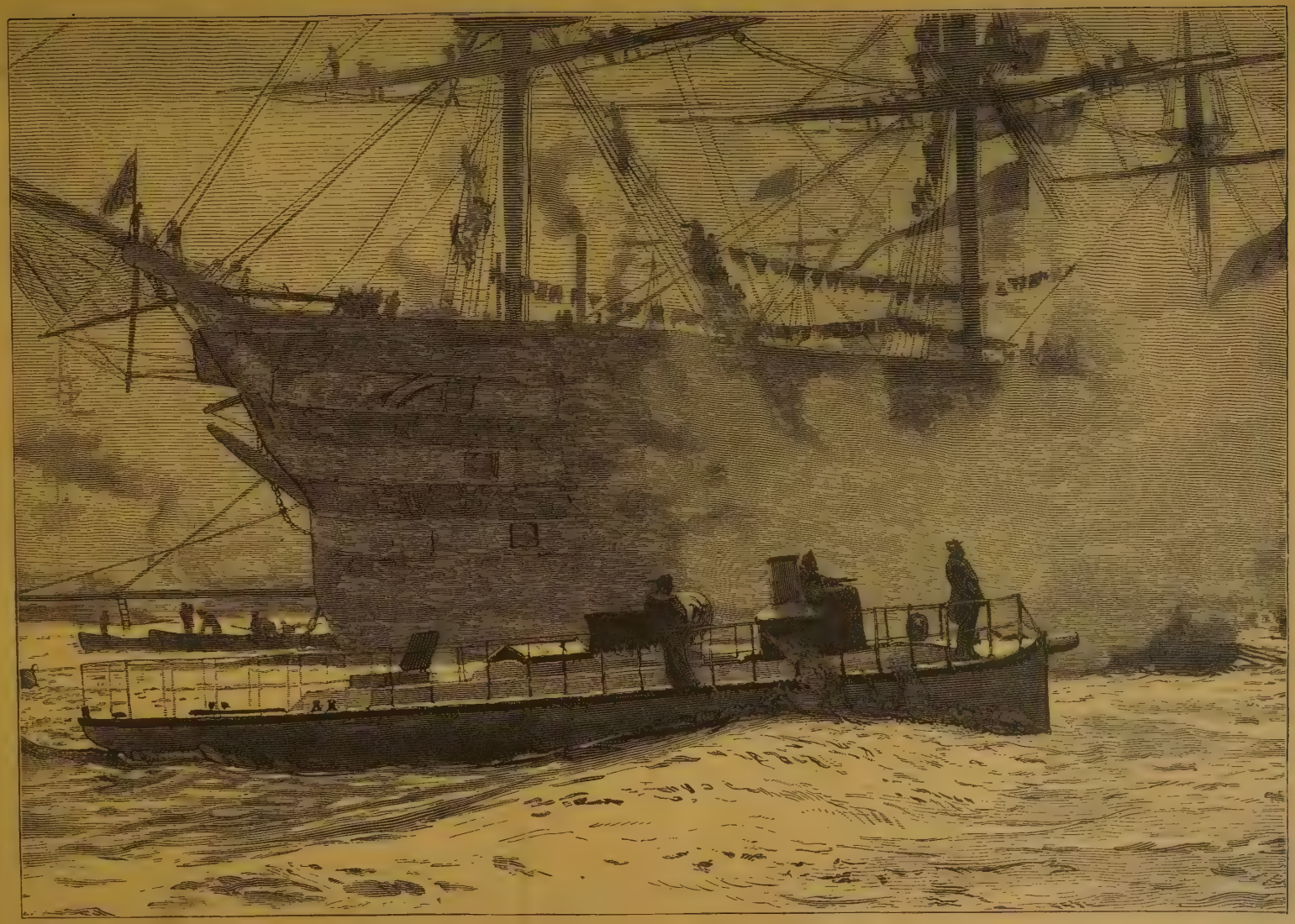
CHAPTER XVI.

"MAN THE LIFE-BOAT!" (*continued*).

A "Dirty" Night on the Sands—Wreck of the *Samaritano*—The Vessel boarded by Margate and Whitstable Men—A Gale in its Fury—The Vessel breaking up—Nineteen Men in the Fore-rigging—Two Margate Life-boats Wrecked—Fate of a Lugger—The Scene at Ramsgate—"Man the Life-boat!"—The good Steamer *Aid*—The Life-boat Towed out—A Terrible Trip—A Grand Struggle with the Elements—The Flag of Distress made out—How to reach it—The Life-boat cast off—On through the Breakers—The Wreck reached at last—Difficulties of Rescuing the Men—The poor little Cabin Boy—The Life-boat Crowded—A Moment of great Peril—The Steamer reached at last—Back to Ramsgate—The Reward of Merit—Loss of a Passenger Steamer—The Three Lost Corpses—The Emigrant Ship on the Sands—A Splendid Night's Work.

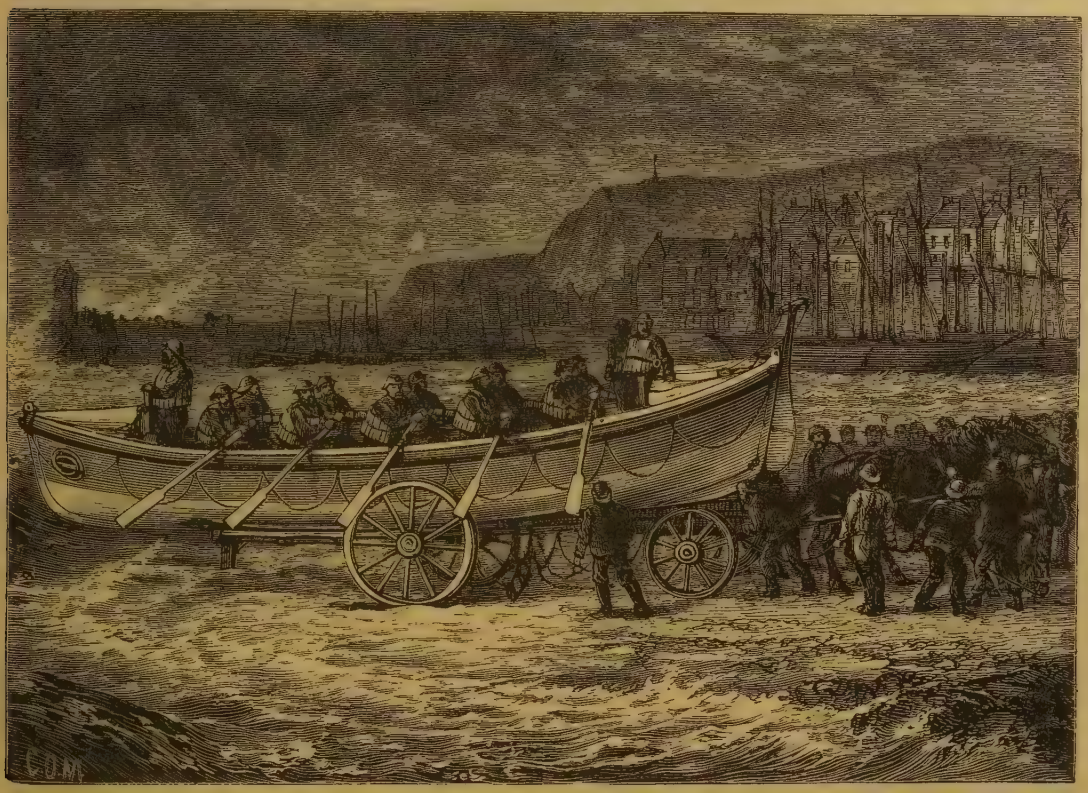
THE waves are tearing over the fatal Goodwin Sands, but the life-boats of Ramsgate, Margate, Deal, and Kingsdown are ready for their work. At Ramsgate, in particular, the life-boat is ready at her moorings in the harbour, while a powerful steam-tug —the *Aid*, whose interesting history would form many a chapter—is lying with steam partially up, prepared to tow out the boat as near the Goodwin Sands as may be with

LOSS OF A LIFE-BOAT AT THE SHIPWRECK OF THE "ANN."



THE OLD STYLE AND THE NEW (A THREE-DECKER AND A TORPEDO BOAT).

safety. The "storm warriors," as the Rev. Mr. Gilmore calls them with so much appropriateness, in his fascinating and powerfully-written work,* "are on the watch, hour after hour, through the stormy night walking the pier, and giving keen glances to where the Goodwin Sands are white with the churning, seething waves that leap high, and plunge and foam amid the treacherous shoals and banks. Look! a flash is seen; listen, in a few seconds, yes, there is the throb and boom of a distant gun, a rocket cleaves the darkness; and now the cry—"Man the life-boat! Man the life-boat! Seaward ho! Seaward ho!" Storm warriors to the rescue!



A LIFE-BOAT AND CARRIAGE—LATEST FORM.

One Sunday night in the month of February, a few years ago, the weather was what sailors call "dirty," and accompanied by sudden gusts of wind and snow-squalls. Before the light broke on Monday morning, the Margate lugger, *Eclipse*, put out to sea to cruise round the shoals and sands in the neighbourhood of Margate, on the look-out for the victims of any disasters that might have occurred during the night, and the crew soon discovered that a vessel was ashore on the Margate sands. She proved to be the Spanish brig *Samaritano*, bound from Antwerp to Santander, and laden with a valuable

* "Storm Warriors; or, Life-boat Work on the Goodwin Sands," by the Rev. John Gilmore, M.A.

cargo; she had a crew of eleven men under the command of the captain, Modesto Crispo. Hoping to save the vessel, the lugger, as she was running for the brig, spoke a Whitstable fishing-smack, and borrowed two of her men and her boat. They boarded the brig as the tide went down, and hoped to be able to get her off the sands at the next high water. For this purpose, six Margate boatmen and the two Whitstable men were left on board.

With the rising tide the gale came on again with renewed fury, and it soon became a question not of saving the vessel, but of saving their own lives. The sea dashed furiously over the wreck, lifting her, and then letting her fall with terrific violence on the sands. Her timbers quivered and shook, and a hole was quickly knocked in her side. She filled with water, and settled on one side. "The waves began now to break with great force over the deck; the lugger's boat was speedily knocked to pieces and swept overboard; the hatches were forced up; and some of the cargo which floated on the deck was at once washed away. The brig began to roll and labour fearfully, as wave after wave broke against her, with a force that shook her from stem to stern, and threatened to throw her bodily upon her broadside; the men, fearing this, cut the weather rigging of the mainmast, and the mast soon broke off short with a great crash, and went over the side." All hands now had to take to the fore-rigging; nineteen souls with nothing between them and death but the few shrouds of a shaking mast! The waves threw up columns of foam, and the spray froze upon them as it fell. The Margate and Whitstable men were caught in a trap, for neither lugger nor smack would have lived five minutes in the sea that surrounded the vessel. Would the life-boat come?

As soon as the news of the wreck reached Margate, the smaller of the two life-boats was manned and launched. By an oversight in the hurry of preparation, the valves of the air-tight boxes had been left open, and she was fast filling. Although she succeeded in getting within a quarter of a mile of the brig, she had to be speedily turned towards shore, or she would have been wrecked herself. After battling for four hours with the sea and gale, she was run ashore in Westgate Bay. There the coast-guardmen did their best for them. Meantime, when it was learned in Margate that the first boat was disabled, the larger one was launched. Away they started, the brave crew doing all they could to battle with the gale, but all in vain; their tiller gave way, and they had to give up the attempt. They were driven ashore about one mile from the town. Next, two luggers attempted to get out to the wreck. The fate of the first was soon settled: a fearful squall of wind struck her before she had got many hundred yards clear of the pier, and swept her foremast clean out of her. The second lugger was a little more fortunate; she beat out to the Sands, but only to find the surf so heavy, that it was impossible to cross them, or to get near the wreck. "The Margate people became full of despair; and many a bitter tear was shed for sympathy and for personal loss as they watched the wreck, and thought of the poor fellows perishing slowly before their eyes, apparently without any possibility of being saved." And now let us change the scene to Ramsgate.

About nine o'clock the news came to Ramsgate that there was a brig ashore on the Woolpack Sands, off Margate, but it was naturally concluded that the life-boats of the

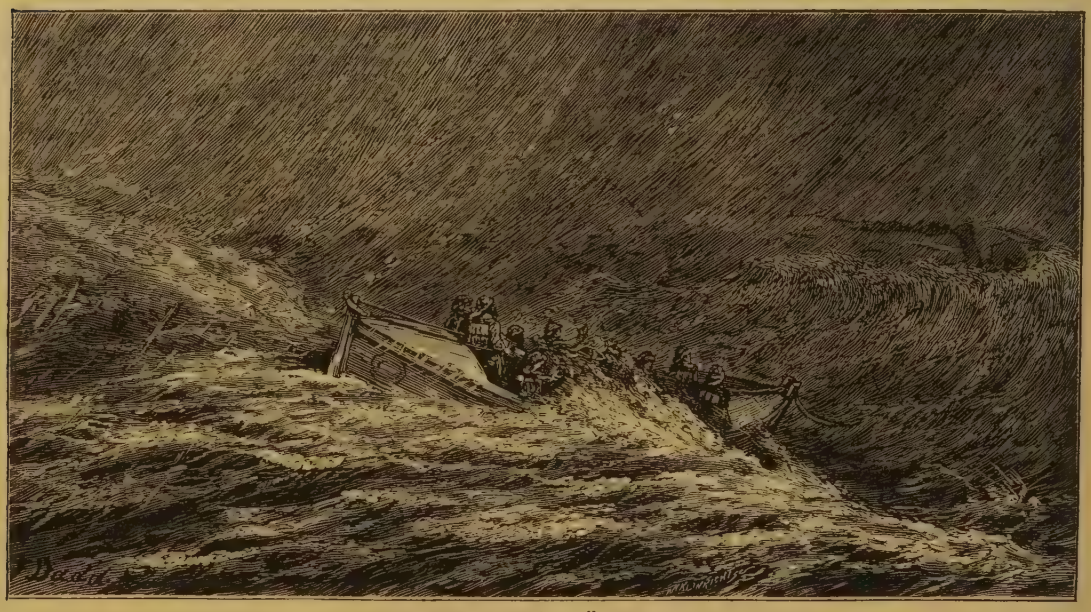
latter place would go to the rescue, and no one supposed that the services of the Ramsgate boat would be required. "But shortly after twelve, a coastguard-man from Margate hastened breathless to the pier and to the harbour-master's office, saying, in answer to eager inquiries, as he hurried on, that the two Margate life-boats had been wrecked. The order was, of course, at once given, 'Man the life-boat!' and the boatmen rushed for it. First come, first in; not a moment's hesitation, not a thought of further clothing: they will go in as they are, rather than not go at all. The news rapidly spreads; each boatman as he heard it, hastily snatched up his bag of waterproof overalls and south-wester cap, and rushed down to the boat; and for some time, boatman after boatman was to be seen racing down the pier, hoping to find a place still vacant; if the race had been to save their lives, rather than to risk them, it would hardly have been more hotly contested.

"Some of those who had won the race and were in the boat were ill-prepared with clothing for the hardships they would have to endure, for if they had not their waterproofs at hand, they did not delay to get them, fearing that the crew might be made up before they got to the boat. But these men were supplied by the generosity of their disappointed friends, who had come down better prepared, but too late for the enterprise; the famous cork jackets were thrown into the boat and at once put on by the men.

"The powerful steam-tug, well-named the *Aid*, that belongs to the harbour, and has her steam up night and day ready for any emergency that may arise, speedily got her steam to full power, and with her brave and skilful master, Daniel Reading, in command, took the boat in tow, and together they made their way out of the harbour. James Hogben, who with Reading has been in many a wild scene of danger, was coxswain, and steered and commanded the life-boat.

"It was nearly low water at the time, but the force of the gale was such as to send a good deal of spray dashing over the pier; the snow fell in blinding squalls, and drifted and eddied in every protected nook and corner. It was hard work for the excited crowd of people who had assembled to see the life-boat start, to battle their way through the drifts and against the wind, snow, and foam, to the head of the pier; but there at last they gathered, and many a one felt his heart fail as the steamer and boat cleared the protection of the pier, and encountered the first rush of the wind and sea outside. 'She seemed to go out under water,' said one old fellow; 'I would not have gone out in her for the universe.' And those who did not know the heroism and determination that such scenes call forth in the breasts of the boatmen, could not help wondering much at the eagerness which had been displayed to get a place in the boat—and this although the hardy fellows knew that the two Margate life-boats had been wrecked in the attempt to get the short distance which separated the wreck from Margate, while they would have to battle their way through the gale for ten or twelve miles before they could get even in sight of the vessel." And so the steamer with its engines working full power plunged heavily along, the life-boat towed astern with fifty fathoms (300 feet) of five-inch hawser out, an enormously strong rope about the thickness of a man's wrist. The water flowed into and over the boat, and still, like any other good life-boat, she floated, and rose in its buoyancy, almost defying the great waves, while her crew were knee-deep in water.

They, making their way through the Cud channel, had passed between the black and white buoys, so well-known to Ramsgate visitors, when a fearful sea came heading towards them. It met and broke over the steamer, buried her in foam and then passed on. The life-boat rose to it, and for a moment hung with her bows high in air, then plunged bodily almost under water. The men were nearly washed out of her, for at that moment the tow rope broke, and the boat fell across the sea, which swept in rapid succession over her. "Oars out! oars out!" was the cry, but they could do nothing with them. The steamer was, however, cleverly brought within a few yards to windward of the boat, and a hauling line, to which was attached a new hawser, was successfully passed to the boat, and they again proceeded in the



RAMSGATE—THE "AID" GOING OUT.

teeth of the blinding snow and sleet and spray which swept over the boat, till the men looked, as one said at the time, "like a body of ice."

Still they struggled on, till they reached the North Foreland, where the sea was running mountains high, and although early in the afternoon, the air was so darkened by the storm that the captain of the boat could not see the steamer only a hundred yards ahead, and still less able were the men on board the steamer to see the life-boat. Now they sighted Margate, and could plainly see the two disabled life-boats ashore. But where was the wreck? A providential break in the drift of snow suddenly gave them a glimpse of it, and the master of the steamer made out the flag of distress flying in the rigging of the fated vessel. But she was on the other side of the sand, and to tow the boat round would take a long time in the face of such a gale; while for the boat to make across the sand seemed almost impossible. But although it seemed a forlorn hope, it was resolved to force her through the surf and sea under sail, and the hawser was cast off. Now a new complication arose. The tide was found to be running so furiously that they must be towed at least three miles to the eastward

before they would be sufficiently far to windward to make certain of fetching the wreck. The tow rope had to be got on board again, and it was a bitter disappointment to all, that an hour or more of their precious time must be consumed before they could possibly get to the rescue of their endangered brother seamen. The snow-squalls increased, and they lost sight of the wreck again and again. "The gale, which had been increasing since the morning, came on heavier than ever, and roared like thunder overhead, the sea was running so furiously and meeting the life-boat with such tremendous force that the men had to cling on their hardest not to be washed out of her, and at last the new tow rope could no longer resist the increasing strain, and suddenly parted with a tremendous jerk; there was no thought of picking up the cable again—they could stand no further delay, and one and all of her crew rejoiced to hear the captain of the life-boat give orders to set sail."

Straight for the breakers they made in the increasing gloom; no faltering or hesitation, brows knit, teeth clenched, hands ready, and hearts firm. The boat, carrying the smallest amount of sail possible, was driven on by the hurricane force of the wind, till she plunged through the outer range of the breakers into the battling, seething, boiling sea, that marked the treacherous shallows. "When they saw some huge breaker heading towards them like an advancing wall, then the men threw themselves breast down on the thwart, curled their legs under it, clasped it with all their force with both arms, held their breath hard, and clung on for very life against the tear and wrestle of the waves, while the rush of water poured over their backs and heads, and buried them in its flood. Down, down, beneath the weight of the water, the men and boat sank; but only for a moment; the splendid boat rose in her buoyancy, and freed herself of the seas, which for a moment had overcome her and buried her, and her crew breathed again; and a struggling cry of triumph rises from them, 'Well done, old boat! well done.'"

A sudden break in the storm, and the wreck is revealed to them half a mile to leeward. Her appearance made even these hardy men shudder. She had settled down by the stern, her uplifted bow being the only part of the hull that was to be seen, and the sea was making a clean breach over her. "The mainmast was gone, her foresail and foretopsail were blown adrift, and great columns of foam were mounting up, flying over her foremast and bow. They saw a Margate lugger lying at anchor just clear of the Sands, and made close to her. As they shot by they could just make out, amid the roar of the storm, a loud hail, 'Eight of our men on board!' and on they flew, and in a few minutes were in a sea that would instantly have swamped the lugger, noble and powerful boat though she was.

"Approaching the wreck, it was with terrible anxiety they strained their sight, trying to discover if there were still any men left in the tangled mass of rigging, over which the sea was breaking so furiously. By degrees they made them out. 'I see a man's head. Look! one is waving his arm.'—'I make out two! three! why, the rigging is full of the poor fellows;' and with a cheer of triumph, as being yet in time, the life-boat crew settled to their work." Four hours they had been battling the elements, while the shipwrecked crew had waited eight hours despairingly, within a few miles of shore, shivering in the rigging. The sails were lowered, and anchor cast overboard. "No cheering! no shouting in the boat now, no whisper beyond the necessary orders; the risk and suspense are too terrible! Yard by yard the cable is cautiously paid out, and the great rolling seas are allowed to carry the

boat, little by little, nearer to the vessel. The waves break over the boat, for the moment bury it, and then as the sea rushes on, and breaks upon the wreck, the spray, flying up, hides the men lashed to the rigging from the boatmen's sight. They hoist up a corner of the sail to let the boat sheer in; all are ready; a huge wave lifts them. 'Pay out the cable! sharp, men! sharp!' the coxswain shouts; 'belay all!' The cable was let go a few yards by the run, and the boat is alongside the wreck. With a cry, three men jump into the boat and are saved! 'All hands to the cable! haul in hand over hand, for your lives, men, quick!' the coxswain cries; for he sees a tremendous wave rushing in swiftly upon them. They haul in the cable, draw the boat a little from the wreck, the wave passes and breaks over the vessel; if the life-boat had been alongside she would have been dashed against the wreck, and perhaps capsized, or washed over, and utterly destroyed. Again the men watch the waves, and as they see a few smaller ones approaching, let the cable run again, and get alongside; this time they are able to remain a little longer by the vessel; and, one after another, thirteen of the shipwrecked men unlash themselves from the rigging and jump into the boat, when again they draw away from the vessel in all haste, and avoid threatened destruction." At last three Spaniards are left in the rigging; they seem nearly dead, and scarcely able to unlash themselves, and crawl down the shrouds. The boat must be placed dangerously near the vessel, and two of the life-boatmen must get on to the wreck and lift the men on board. They do it quietly, coolly, determinedly. The last one left is a poor little cabin-boy; he seems entangled in the rigging, and yet he holds fast to a canvas bag of trinkets and things he was taking as presents to the loved ones at home. "God only knows," says Gilmore, "whether the loved ones at home were thinking of and praying for him, and whether it was in answer to their prayers and those of many others that the life-boat then rode alongside that wreck, an ark of safety amid the raging seas.

"They shout, the boy lingers still, his half-dead hands cannot free the bag from the entangled rigging. A moment and all are lost; a boatman makes a spring, seizes the lad with a strong grasp, and tears him down the rigging into the boat—too late, too late; they cannot get away from the vessel; a tremendous wave rushes on: hold hard all, hold anchor! hold cable! give but a yard and all are lost. The boat lifts, is washed into the fore-rigging, the sea passes, and she settles down again upon an even keel. Thank God! If one stray rope of all the torn and tangled rigging of the vessel had caught the boat's rigging, or one of her spars—if the boat's keel or cork fenders had caught in the shattered gunwale, she would have turned over, and every man in her been shaken into the sea to speedy and certain death. Thank God! it is not so, and once more they are safe." Look at the boat now; thirteen of its own crew, eight of the Margate and Whitstable men, the captain, mate, eight seaman, and the boy, thirty-two souls in all. Will she be able to bring all this human freight safely to land? Their dangers are not yet over; in fact, to the poor Spaniards, the terrors of death have not yet passed away; for they know little of the grand properties of a first-class English life-boat.

Now come the difficulties of clearing the wreck. The anchor holds, and there is no thought of getting her up in such a gale and sea. The hatchet is passed forward; there is a moment's delay, a delay by which indeed all their lives are saved. Already one strand out of

the three of which the strong rope is composed is severed, when a fearful gust of wind sweeps by, the boat heels over almost on her side—a crash is heard, and the mast and sail are blown clean out of the boat! she is carried straight for the wreck; the cable is slack, they haul it in as fast as they can, but on they are carried swiftly, as it would seem to certain destruction. "Let them hit the wreck full, and the next wave must throw the boat bodily upon it, and all her crew will be swept at once into the sea; let them but touch the wreck, and the risk is fearful; on they are carried, the stem of the boat just grazes the bow of the vessel, they must be capsized by the bowsprit and entangled in the wreckage; some of the crew are ready for a spring into the bowsprit to prolong their lives a few minutes, the others are all steadily, eagerly, quietly, hauling in upon the cable might and main, as the only chance of safety to the boat and crew; one moment more and all are gone, one more haul upon the cable, a fathom or so comes in by the run, and at that moment mercifully taughtens and holds, all may yet be safe! another yard or two and the boat would have been dashed to pieces." This danger over, they have to think of the mast and sail dragging over the side of the boat; it is with great difficulty that they get them on board, and rig them up once more. At last they sail away from the Sands, the breakers and the wreck.

And now for the steamer, which at length they reach, passing on the way the lugger *Eclipse* and the Whitstable smack, to the crews of which they were able to impart the good tidings. When they reached the steamer the sea was raging, and the gale blowing as much as ever, and it was no easy task to get the poor shipwrecked fellows on board, as they were too exhausted to spring up her sides as the opportunity occurred; and one poor fellow was literally hauled on board with a rope. The return voyage was little less dangerous than the voyage out, but at last the Ramsgate pier-head light shone out with its bright welcome, and cheers broke out from the anxious crowd, as it was known that nineteen men had been saved from a terrible and certain death. The Spanish sailors were well cared for, and their captain, in speaking of the rescue, was almost overcome by his feelings of gratitude and wonder, for he had made up his mind for death. He had a picture made of the rescue to take home with him to show the Spanish authorities. It is gratifying to know that so much bravery did not go unrewarded. The English Board of Control presented each of the men with £2 and a medal, while the Spanish Government gratefully acknowledged the heroic exertions put forth, by granting each a medal and £3. And all the above is but one example of the work of our "Storm Warriors," whose glorious mission is to save.

One stormy night some years ago the *Aid* and the life-boat started from Ramsgate in answer to rockets fired from one of the Goodwin light-vessels. They knew well what it meant, but on reaching the edge of the Sands could not, after cruising about some distance, find any traces of a vessel in distress. They waited till daylight, and then were just able to distinguish the lower mast of a steamer standing out of the water. They made towards it, but found no trace of life, no signs of any floating wreck to which a human being could cling. They were forced to the conclusion that almost immediately upon striking, the vessel must have broken up and sunk in the quicksand. Poor crew! poor passengers, maybe! a sharp, sudden death! Would that the vessel could have held together a little longer!

They had not proceeded much farther ahead in the hopes of assisting another vessel ashore not far from Kingsgate, when the captain of the *Aid* saw a large life-buoy floating by. "Ease her!" he cries, and the way of the steamer slackens; "God knows but what that life-buoy may be of some use to us." The helmsman steers for it; a sailor makes a hasty dart at it with a boat-hook, misses it, and starts back appalled from a vision of staring eyes, and pale and agonised faces, matted hair, and arms outstretched for help. The life-boat crew steer for the buoy; the bowman grasps at it, but cannot lift it; his cry of horror startles the whole crew. Some of them hasten to help him. To that buoy three dead bodies were found lashed with ropes round their waists. Slowly and reverently, one by one, the crew lifted them on board, and laid them out under the sail. Those three pale corpses were all that were ever found of the crew and passengers—to what number is not known precisely to-day—of the steamer *Violet*, which had left Ostend late the previous evening. At two o'clock she struck the Sands; a little after three there was no one left on board to answer the signals of a steamboat that had come to their rescue, and show their position; a little later and the *Violet* was lying a worthless wreck below the breakers and quicksands.

Happily the efforts of the life-boat and steamer's men are almost invariably crowned with success, where such is anything like possible. A grand success was scored some years ago when the passengers and crew of a large emigrant ship, and the crew of another vessel, one hundred and twenty in all, were rescued and brought into Ramsgate as the result of one long night's work. The first ship, the *Fusilier*, was found hard and fast on the Sands, in a perfect boil of waters, and the life-boat alone dare approach her, the *Aid* being obliged to lay off at some distance. The terrified passengers looked down upon the life-boat from the high ship's deck, which quivered with every thump on the sands, wondering how many she could possibly save, and despairingly crowding round the two life-boat's men who had sprung to the man-ropes when the boat had been lifted by a sea close to the wreck. The lights from the ship's lamps and the faint moonlight revealed a trembling, pale, and horror-stricken crowd, nine-tenths of whom had known nothing before of the terrors of the sea, and who still despaired of ever seeing land again. But every one of them, and the list included more than sixty women and children, were saved. The women and children were taken off first, helped down by sailors slung in bowlines over the vessel's side, to the plunging, restless boat, the dangers being greatly enhanced by the helplessness and frantic terror of the poor creatures. Yet not even a baby was lost, although many were thrown from the vessel to the outstretched arms of the life-boat men. About thirty persons were conveyed at a time to the steamer, where the difficulties of transference were nearly as great as from the wreck, but at last all were safe on board. Then, as the heavily-freighted steamer turned her head for Ramsgate, the emigrants mentioned how, during the previous night, they had seen a large ship drifting fast for the Sands, and how in the darkness they had lost sight of her. A sharp look-out was therefore kept, and as they proceeded down Prince's Channel, and neared the lightship, their search was rewarded. They noted the remnants of a wreck well over on the north-east side of the Girdler Sands, and immediately put back for the life-boat, which had been left alongside the emigrant ship, where the captain remained in the

faint hope of saving her eventually. Both put back to the second wreck, the hull of which was almost torn to pieces, the timbers started, rent, and twisted—a mere skeleton of a ship. To the foremast—hardly held in position by a remnant of shattered deck—clung sixteen of an exhausted crew, including a pilot and a boy of eleven. But a rope was successfully thrown round the fore-rigging, and slowly, one by one, the poor fellows dropped from the mast to the boat. Then "oars out," lest a hole should be knocked through the boat's bottom by some part of the wreckage, and every rower strained his utmost to get clear of her. This done, and the sail hoisted, the steamer was soon reached, and a grand night's work consummated. One can imagine the keen interest of the emigrants watching from the steamer the rescue of men from dangers similar to, but even greater than, those through which they had themselves just passed, and the enthusiasm ashore, at an almost unparalleled example of successful life-boat work.

CHAPTER XVII.

"MAN THE LIFE-BOAT!" (*continued*).

A Portuguese Brig on the Sands—Futile Attempts to get her off—Sudden Break-up—Great Danger to the Life-boat—Great Probability of being Crushed—An Old Boatman's Feelings—The Life-boat herself on the Goodwin—Safe at Last—Gratitude of the Portuguese Crew—A Blaze of Light seen from Deal—Fatal Delay—Twenty-eight Lives Lost—A Dark December Night—The almost-deserted Wreck of the *Providentia*—A Plucky Captain—An Awful Episode—The Mate beaten to Death—Hardly saved—The poor little Cabin-boy's Rescue—Another Wreck on the Sands—Many Attempts to rescue the Crew—Determination of the Boatmen—Victory or Death!—The *Aid* Steamer nearly wrecked—A novel and successful Experiment—Anchoring on Board—The Crew Saved.

THE emigrant ship mentioned in the preceding chapter was eventually got off the Sands; but although similar efforts are often made, they are by no means usually attended by similar results. The danger of waiting by the ship is very considerable. Gilmore gives us a good example of this in his account of a Portuguese brig on the Sands, which there were, at first, strong hopes of saving. Her masts and rigging, as at first seen by the Ramsgate men, were all right, and her clean new copper was intact. "A grand thing for all hands—for owners, underwriters, crew, and boatmen—the men think, if they can only get her safely off when the tide rises, and bring her into harbour; a fine vessel and perhaps valuable cargo saved, and a pretty piece of salvage, which will be well earned, and nobody should grudge, for the boatmen have to live, as well as to save life." The captain had at first refused to employ the services offered by the crews of two Broadstairs luggers, but at last was glad to avail himself of their assistance, coupled with that of the life-boat men and the steam-tug *Aid*. The boatmen got an anchor out astern as quickly as possible, the vessel being head on to the Sands, and used other means to assist the steamer's work. They hoped that the *Aid* would be able to back close enough to them, to get a rope on board fastened to the flukes of the brig's anchor, and to drag the anchor out, and drop it about one hundred fathoms astern of the vessel. All hands would then have gone to the windlass, keeping a strain upon

the cable, and, each time the vessel lifted, heaved with a will—the steamer, with a hundred and twenty fathoms of nine-inch cable out, towing hard all the time. By these means they expected to be able gradually to work the vessel off the Sands. But they soon lost hope of doing this. The gale freshened about one o'clock in the morning; the heavy waves rolled in over the sands, and she lifted and fell with shocks that made the masts tremble and the decks gape open. The life-boat remained alongside, afloat in the basin that the brig had worked in the sands, and it took all the efforts of the men on board to prevent her getting under the side of the vessel, and being crushed. The Portuguese captain still refused to desert his vessel, while the boatmen, who knew the danger, were almost ready to force the crew to leave the ship.

Suddenly a loud sharp crack, like a crash of thunder, pealed through the ship. One of her large timbers had snapped like a pipe-stem, and now the Portuguese sailors were only too anxious to leave. Even then, however, they made a rush to get their things, and soon eight sea-chests hampered the life-boat. The captain did not like to refuse the poor fellows, although every moment was of consequence. The surf flew over the brig, and boiled up all around her; the life-boat, deluged with spray, had all her lights washed out. The snapping and rending of the brig's timbers was heard over the fury of the storm; she was breaking up fast. The boy was handed to the boat, the sailors following, and the brig was abandoned. But the danger was far from over.

The steamer and the luggers, exposed to the full fury of the increasing gale, were outside, the former head to wind, steaming half-power. The steamer endeavoured to keep in the neighbourhood of the wreck and of the life-boat. One of the luggers had to cut her cable, without attempting to save her anchor, and make with all speed for Ramsgate; the second sprung her mast, which was fished with great difficulty, and she too made the best of her way for the harbour. The crew of the steamer could see nothing of the boat—Was she swamped or stove, and all lost? They made signals, but to no purpose; and the *Aid* cruised up and down the edge of the dangerous sands as near as might be, hoping against hope. The night was pitchy dark, and the storm remained at its worst. Through the thick darkness the bright light of the Goodwin light-vessel shone out like a star. With a faint hope, the crew of the steamer wrestled their way through the storm, and spoke the light-ship. Nothing had been seen of the life-boat. They hastened to their old cruising-ground. How they longed for the light! All hands were still on watch, and as the faint grey light of dawning came, they sought with straining eyeballs to penetrate the twilight, and find some sign of their lost comrades. It was almost broad daylight before they could find the place where the wreck was lying, and when they discovered it, lost all hope, for the brig was found completely broken up, actually torn to pieces. They could see great masses of splintered timber and tangled rigging, but not a sign of life. Sadly they turned from the fatal Goodwin, and made for the harbour.

To return to the life-boat, afloat within the circle of the bed worked by the brig in her wild careering. She could not by any possibility leave, though the wreck threatened to roll over her every moment, for outside were the shallow sands, and she was grounding every few moments. "Crash! the brig heaves, and crushes down upon her bilge; again and

again," says the narrator, "she half lifts upon an even keel, and rolls and lurches from side to side; each time that she falls to leeward she comes more and more over, and nearer to the boat.

"This is the danger that may well make the stoutest heart quail. The boat is aground—helplessly aground; her crew can see through the darkness of the night the yards and masts of the brig swaying over their heads, now tossing high in the air as the brig rights, and now falling nearer and nearer to them, sweeping down over their heads, swaying and rending in the air, the blocks, and ropes, and torn fragments of sails flying wildly in all directions. Let but one of the swaying yards hit the boat, she must be crushed, and all lost. The men crouch down closer and closer, clinging to the thwarts as the brig falls to them, casting dread glances at the approaching yards; all right once more; another pull at the cable—hard, men, hard; over again comes the brig; stick to it, stick to it, my men; crushed or drowned, it will be soon over if we cannot move the boat; another pull, all together; again and again they make desperate efforts to stir the boat, but she will not move one inch; they must wait, and, if needs be, wait their doom." And so through hours of fearful suspense, half dead with cold and the ceaseless rush of surf over them, watching in the shadowy darkness the swaying masts and flying blocks, expecting each moment to be their last.

But at length a dawn of hope arrived; the boat lifted on the swell of the tide that was beginning to reach her, and though she immediately grounded again, the men knew that all was not lost. After desperate hauling on the cable they at last were able to ride to their anchor a few yards clear of the brig. But to get away from the sand in the face of the fierce gale and tide was impossible, and so there was no alternative, they must beat right across the sands, and this in the wild fearful gale, and terrible sea, and pitch-dark night. Breaker after breaker rushed furiously towards and over them; the men were nearly washed out of the boat; and, worse, the anchor began to drag, and every moment they drifted nearer to the wreck again. There might now be water enough to take them clear; at all events, they must risk it. The foresail was hoisted and the cable cut, and she leaped forward, but only for a few yards, when she grounded upon the sands again with a terrible shock, and again within reach of the brig. Huge breakers came tearing along, and, at last, after many such experiences, they were once more clear of the wreck. Then another danger arose. A small life-boat belonging to the Broadstairs men had been in tow all this time, and when the Ramsgate boat grounded she came crashing along into her. The Ramsgate men had, in the midst of the boiling sea, to fend her off with their feet, and at last cut her adrift. The sea-chests of the Portuguese sailors—or at least those not already washed away—were thrown overboard. Again and again she grounded on the sand ridges washed up by the surf—ridges giant editions of the little sand-ripples on the sea-shore so well remembered by all visitors to our coasts, but two and three feet high, instead of as many inches.

"One old boatman," says Gilmore, "afterwards thus described his feelings:—'Well, sir, perhaps my friends were right when they said I hadn't ought to have gone out—that I was too old for that sort of work' (he was then about sixty years of age), 'but, you see, when there is life to be saved, it makes one feel young again; and I've

always felt I had a call to save life when I could, and I wasn't going to hang back then. And I stood it better than some of them, after all. I did my work on board the brig, and when she was so near falling over us, and when the *Dreadnought* life-boat seemed knocking our bottom out, I got on as well as any of them; but when we got to beating and grubbing over the sands, swinging round and round, and grounding every few yards with a jerk that bruised us sadly, and almost tore our arms out from the sockets; no sooner washed off one ridge, and beginning to hope that the boat was clear, than she thumped upon another harder than ever, and all the time the wash of the surf nearly carrying us out of the boat—it was truly almost too much for any man to stand. There was a young fellow holding on next to me; I saw his head begin to drop, and that he was getting faint, and going to give over; and when the boat filled with water, and the waves went over his head, he scarcely cared to struggle free. I tried to cheer him a bit, and keep his spirits up. He just clung to the thwart like a drowning man. Poor fellow! he never did a day's work after that night, and died in a few months.' And then the old man described how he took his life-belt off, that he might have it over all the quicker; how the captain cheered them up by crying out, 'We'll see Ramsgate yet again, my men, if we steer clear of old wrecks;' and how he was going off into a kind of stupor when the clouds broke a little, and one bright star shone out, a star of life and hope to him. For seven whole days after the poor old man reached shore he lost his speech, and lay like a log on his bed, while all the men were considerably shaken. 'I cannot describe it,' said he, 'and you cannot, neither can any one else; but when you say you've beat and thumped over those sands, almost yard by yard, in a fearful storm on a winter's night, and live to tell the tale, why it seems to me about the next thing to saying that you've been dead, and brought to life again.'"

But suddenly the swinging and beating of the boat ceased: she was in a heavy sea, but in deep water, and she answered her helm. The crew soon got more sail on her, and she made good way before the gale. Even the Portuguese sailors lifted their heads. They had been clinging together and to the boat, crouching down under the lee of the foresail, utterly despairing of life; now their joy knew no bounds. They were noticed earnestly consulting together. They had lost their kits, and only possessed the clothes they stood in and a few pounds in money (about £17) between them, but the latter they determined to present to the crew. "I, for one, won't touch any of it," said the coxswain of the boat. "Nor I!". "Nor I!" all added; "put your money up." And so to the harbour, where their consul took care of them. When the steamer arrived later on, what was not the surprise and delight of the captain and all hands to find the life-boat at her old moorings, and their comrades in so many dangers all safe in port!

For by far the larger proportion if not indeed nearly the whole of these life-savers work *con amore*, and a mishap or positive disaster is often to them an agonising disappointment. One stormy New Year's Eve some years ago "a ship was seen off Deal beach in almost a blaze of light, burning tar-barrels and firing rockets, to tell of her distress; an intervening fog seemed to prevent the look-out on board the light-vessel seeing her, and some boatmen on Deal beach, who could not possibly get their boats off the sands in the face of the strong gale blowing straight on shore, put their halfpence together to pay for a telegraph message—the

messages were dearer then than they are now—and sent their swiftest runner to telegraph to Ramsgate; and, after all, there was some unfortunate mistake, and fatal delay, and a telegram at last sent for further particulars, which was answered with a demand for urgent speed, and away then flew steamer and life-boat, and they neared the wreck, and rounded to, to send the life-boat in, when some of the boatmen thought they heard an agonising shriek, and others thought it was only the wail of the storm; but they looked, and the great green seas swept over the wreck, turned her right over, and she was seen

A GROUP OF LIFE-BOAT MEN.

no more, and twenty-eight lives went to their account. A piteous New Year's tale it was that was told next morning. A boat's crew got away from the ship soon after she struck, and, battling through the broken seas, made way before the wind to Dover, and they told the story that the lost vessel had picked up a shipwrecked crew, who were thus a second time wrecked, and at the second time lost; and that more of the crew would have come away in the boat, and in other boats, but it was a great risk; and there was a Deal pilot on board, who pointed out the danger, and said that the Ramsgate life-boat was sure to be out to their rescue, they might be sure of her; and so they stayed and lighted tar-barrel after tar-barrel, and fired rocket after rocket; and when the sea washed their signal-fires out and swept the decks, they took to the rigging, and waited for the life-boat; and as they waited, the poor Deal pilot could watch the light on the

beach, by the house where slept his wife and eight children, who were to call him husband—father—no more." The life-boat men hardly like to speak of such a cruel disaster—blameless though they be in the matter. In this particular case a Board of Trade inquiry acquitted them and all else concerned of any blame whatever.

A dark December night, and a large ship reported ashore on the Goodwins. The harbour-master hurries to Ramsgate pier-head; he and all with him can see nothing; they cross-question the man who asserts that he observed during a lift in the fog a vessel on the sands. Although there is no signal from the light-vessels, the harbour-master decides to send out steamer and life-boat. The crews of both soon discover the vessel looming through the mist, a complete wreck, her bow to the sea, her mizen-mast down to the deck, and the wild seas running over her. There are no sailors to be seen lashed in her rigging. Have all on board perished?

Thank God! not so. After infinite difficulty, and after nearly getting entangled with some of the wreckage, the life-boat crew get near the vessel, and find that three men and a boy are crouching under the shelter of the deck-house; they must be a small proportion of the original crew, for she is a large ship, and must have had some fifteen or sixteen hands aboard. The men have been crouching there for hours, and their confidence in the advent of the life-boat had been so strong that they had prepared for her coming by preparing a life-buoy, with a long line fastened to it, ready to throw overboard.

As the long hours passed, fervent hope had been dashed by wild despair. Suddenly the life-boat appears, coming up to her cable just astern of the vessel; it is to them as a reprieve from death, and they wake to life and action. They throw the life-buoy and line to the life-boat men, and after much trouble the latter get it on board. All hands lay hold on the rope, and do their utmost to haul the life-boat nearer to the wreck, but the heavy gale, terrific sea, and strong tide, render it impossible. A tremendous sea comes rushing over the vessel, and for the moment swamps the boat, knocking down five or six of the men, hurting some of them severely, but she lifts again, and no one is lost. But what of the poor crew? The life-boat men feel that it is impossible to haul their boat nearer the ship.

"To their great surprise, they see the captain spring up from the lee of the deck-house, hurriedly take off his oilskin coat, throw it into the water, and then, jumping on the gunwale, grasp the hawser that holds the boat, and slide down into the boiling sea. A huge wave breaks over him and washes him away from the rope; he now tries to swim to the boat, but the life-boat is not directly astern—the sheer she has to her cable that is fastened to the anchor, which was thrown over some distance to the side of the vessel, prevents her dropping right astern; and although the captain has but to swim a few yards out of the direction of the sweep of sea and tide, it is impossible for him to manage it. He is perfectly overwhelmed by the boil of sea, tossed wildly up and down, wave after wave beating over him: it is all that he can do to keep his head above water, and cannot guide his course in the least; the boatmen try all they can to make the boat sheer towards him, so as to reach him or throw him a rope, but it is impossible: they cannot get sufficiently near, and in a few seconds they see him swept

rapidly by in the swift tide. Jarman, the coxswain of the boat, seizes a life-buoy, and throws it with all his force towards him; the wind catches it, and helps the throw; it falls near him; he makes a spring forward and reaches it; the men gladly see that he has got it; they see him put his two hands upon one side, as if to get upon it; as he leans forward it falls over his head like a hoop; he gets his arms through it, and shouting to the boatmen, 'All right!' he waves his hand as if to beckon them to follow him, and goes floating down in the strong tide and among the raging, leaping seas, in a strange wild dance, that threatens indeed to be a dance of death." With terror and dismay they watch him in his fearful struggle, till he is lost to their view, quite out of sight among the waves; they could not follow him, however much they might have wished it, for it might be hours before they could get back to the ship, and the two men and boy still aboard.

And had they thought of so doing the next episode would have obliged them to desist. A tremendous crash startles them all; the mainmast has fallen over the port side of the vessel. The men on board give a loud cry; the chief mate springs wildly to the starboard quarter, and, making the end of the mainbrace hanging there fast round his waist, drops into the sea. He is a powerful swimmer; but what can he do in a tide and sea so tremendous that twelve strong men cannot haul the boat one foot against them? And so a fearful tragedy is worked out before their very eyes. Now he is buried in a sea; now he is thrown high in the air on the crest of a wave, but he never nears the boat, nor can it near him. He strikes out wildly, as if to make a last effort, and cries aloud in his agony and despair. They try again and again to throw the lead-line over the rope which holds the poor fellow, but the boat is pitching and tossing so much that their efforts are all in vain. "'Now he rises on a wave; now try; heave with a will, well clear of his head. Ah! missed again; look out; hold on all!' A wave rushes over them, boat and all; another half minute, and they make another attempt. No! all in vain, each time it falls short. The struggle cannot last long; strong and young as the man is, his strength cannot possibly endure long in such a conflict; his cries grow more feeble, and soon cease; they see him try and get back to the ship, climbing up the rope, but his strength fails, and he falls back; his arms and legs are still tossed wildly about, but it is by the action of the waves; his head drops and sinks; yes! it is all over!—all over with him!" Think of the second mate and cabin-boy on the wreck, watching in helpless horror the death they could not avert, and which may be theirs in a few moments!

The deck-house under which they have been crouching is beginning to break up, and the remaining man, throwing himself on the rope by which the life-boat is made fast to the ship, attempts to reach the boat. The breakers rush over him as he painfully struggles on, and he is again and again buried in the waves. At last he reaches the high bow of the life-boat, which is leaping and falling and jerking, tearing the hawser up and down in the seas, as if trying to throw him from his hold. His hands convulsively clutch the rope; pale, and with jaw dropping, he seems about to swoon, and in another moment he will be gone. "The man in the bow of the boat has been watching his every movement, has shuddered with dismay as he saw the seas wash over

him, expecting him to be carried away in the strong tide. No; he still grasps the rope, and at last is within reach! In one spring, and with a cry to his mates, 'Hold me! hold me!' the boatman throws himself upon the raised fore-deck of the life-boat, and, with his body half-stretched over the stern, he grasps the collar of the sailor. The drowning man throws his arm around the boatman's neck, and clings to him convulsively, by his weight dragging the man's head down and burying it in the water; but the brave fellow clings as hard to the half-dead sailor as the sailor does to him; the seas wash bodily over them and over the bow of the boat; up and down the boat plunges

ON THE COAST AT DEAL.

them both, but he still holds on; three or four of the boatmen have hold of his legs, and are doing their utmost to pull him back into the boat, but they cannot do so; and so the struggle goes on: it is only as the boat rises on a wave and throws her bow up in the air that the men can breathe." And now a new horror, for right down upon them comes the wreck of one of the ship's largest boats, which has just got free of the wreckage. Thank God! it just passes clear of them. The boatmen cannot get the men in over the high bow of the boat, and the two poor fellows are drowning fast, and so they drag them along the side of the boat, still clinging together, to the waist of the boat, where the gunwale is very low, and with more assistance succeed in getting them aboard.

And now for the poor boy, still clinging to the gunwale, and crying out in piteous

tones. Each moment, as the waves dash over the vessel, the boatmen expect to see him washed overboard like a cork. What can be done? No one can mount the rope in the face of the seas and tide which had really helped the poor fellow now safely on the boat. There seems no hope of taking him off by any means whatever, but the coxswain determines to haul the boat up to the ship sharply, and attempt it. Scarcely are the orders given, when some of the men give a cry, "'What's that? look out!' Yes, he is overboard, washed over by that big sea. 'Where is he? where is he? There he is! No; only his cap! there he lifts on that sea—he is coming straight for the boat!' From the change and eddy of the tide, the rush of the sea past the boat is not nearly so rapid as it was, and the poor boy comes floating slowly from the ship; once or twice he has been rolled under by the waves, now he is on the surface again, and near the boat. 'Here he comes! look! on that wave! Lost! No, he floats again! Slacken hawsers! Now he is within reach! Carefully, quick! Now you have got him! He is making no effort, and floating with his head under water!' A boatman manages to hook his jacket with a long boat-hook, and pulls him towards the boat; gently the men lift him in, sorrowfully, and tears are in the eyes of more than one as they look upon the small face. 'Poor little chap! Too late! too late! he's gone!'" Their efforts are now all needed to get clear of the wreck, cut the cable, and raise the sail, all which being done successfully, they go off smartly before the wind, and have time to look to the poor boy again. Kind hands chafe his hands and rub his back and limbs, and put a little rum to his lips, and after about half an hour they have the joy of seeing him show signs of life, and their efforts are redoubled. Some of the men take the dryest of their jackets and wrap him up tenderly, lying him under the mizen-sail. He eventually recovers.

But, strangest part of all this eventful story, the captain, who had been two hours in the seething waters, is picked up alive, although, it may well be believed, in a terrible state of exhaustion. At first he seems to be dying, but at length, after the men have done their best in chafing and rubbing, he gets a little better, and is able to tell them that his vessel, the *Providentia*, was a full-rigged ship from Finland, and that he himself is a Russian Fin, which accounts for his miraculous preservation in the water, as the Fins are the hardiest of sailors. Eleven of his men had left the ship in their best boat, and were, it was eventually found, blown over to Boulogne.

The waves are rolling along in all their fury, and beat down upon the sands with tremendous force, and among them, and settled down somewhat, is a large barque. The life-boat men look at the awful rage of sea, and say to each other, "We have indeed our work cut out for us." There are no signs of life on board the wreck, but the flag of distress is still flying, and the steamer tows the boat nearer to her. Then the crew is discovered crouching in the shelter of the deck-house, while the huge waves make a complete breach over the vessel, threatening to wash away both house and crew. The steamer takes the boat to windward and lets her go. The boat's sail is hoisted, and she makes for the wreck. A minute more and they are in the broken water, the seas falling in tangled volumes over the boat, and she is tossed in all directions by the wild broken waves. She fills again and again, and the men have to cling with all their strength to the thwarts; but still the wind drives the boat on, and they get within about sixty yards

of the wreck, when the anchor is thrown out and the cable paid out swiftly. The men shout out, to encourage the poor trembling wretches on board, and, just as they expect to make a first successful rescue of a part of them, are nearly swamped by a fearful wave, which carries them a hundred yards away. They prepare for another attempt, hoist the sail, and try to sheer her to the vessel, but all their efforts are in vain. Wave after wave breaks over them, and the boat is tossed in all directions by the broken seas. Sometimes the coxswain feels as if he would be thrown bodily forward on the men, as the waves almost lift the boat end on end. They must give it up for this time; the very oars are blown from the row-locks and out of the men's hands. Again and again they are baulked in their efforts to reach the ill-starred vessel. Yet again and again they cheer, to keep up the spirits of its half-drowned and frozen crew.

The ship's hull has now been under water for some time, and is breaking up fast. On board the *Aid* the mortar apparatus is got ready, in the hope of getting near enough to the vessel to fire a line into her rigging. "Cautiously the steamer approaches; the tide has been for some time rising fast; the steamer does not draw much water; they are almost within firing distance; the waves come rushing along and nearly overrun the steamer; at last a breaker, larger than the rest, catches her, lifts her high upon its crest, and letting her fall down into its trough as down the side of a well, she strikes the sands heavily; the engines are instantly reversed; she lifts with the next wave, and being a very quick and handy boat, at once moves astern before she can thump again, and they are saved from shipwreck; and thus the fifth effort to save the shipwrecked crew fails." No time is lost; at once the steamer heads for the life-boat, and makes ready to again tow her into position for a fresh attempt. The masts of the wreck are quivering, and it is evident that she is breaking up fast.

The life-boat men consult together as to the plan of their next effort. At last one of the men proposes a mode, most assuredly novel, and which must, indeed, either prove rescue to the shipwrecked or death to all. "I'll tell you what, my men, if we are going to save those poor fellows, there is only one way of doing it: it must be a case of save all or lose all, that is just it! We must go in upon the vessel straight, hit her between the masts, and throw our anchor over right upon her decks." This is, almost naturally, derided by some as a hair-brained trick. Let us see the result.

"Once more the boat heads for the wreck—this time to do or to die; each man knows it, each man feels it. They are crossing the stern of the vessel. 'Look at that breaker! Look at that breaker! Hold on! hold on! It will be all over with us if it catches us; we shall be thrown high into the masts of the vessel, and shaken out into the sea in a moment! Hold on all, hold on! Now it comes! No, thank God! it breaks ahead of us, and we have escaped. Now, men, be ready, be ready!' Thus shouts the coxswain. Every man is at his station; some with the ropes in hand ready to lower the sails, others by the anchor, prepared to throw it overboard at the right moment; round, past the stern of the vessel, the boat flies, round in the blast of the gale and the swell of the sea; down helm; round she comes; down foresail; the ship's lee gunwale is under water; the boat shoots forward straight for the wreck, and hits the lee rail with a shock that almost throws all the men from their posts, and then, still forward, she literally leaps on

board the wreck. Over! over with the anchor. It falls on the vessel's deck. All the crew of the vessel are in the mizen shrouds, but they cannot get to the boat: a fearful rush of sea is chasing over the vessel, and between them and it. Again and again the boat thumps on the wreck as on a rock, with a shock that almost shakes the men from their hold." The waves carry her off, but the anchor holds, and they manage to haul on board another line. Again and again the boat washes away, but comes up to the vessel again; and, one by one, ten poor Danes are got on board. One sailor jumps from the rigging; the boat sinks in the trough of the sea, and he falls between her and the wreck; a second, and he would be crushed; two boatmen seize him, and are themselves seized by their companions, or they would go overboard.

The long battle was over; was it not one worth fighting? So thought the King of Denmark, who sent two hundred rix-dollars to be divided among the men, who were also rewarded by the Board of Trade. The boatmen are poor men, and such presents come in very acceptably; but their greatest satisfaction must ever come from the memory of their own brave deeds.

CHAPTER XVIII.

"Wrecking" as a Profession.

Probable Fate of a rich Vessel in the Middle Ages—Maritime Laws of the Period—The King's Privileges—Cœur de Lion and his Enactments—The Rôles d'Oleron—False Pilots and Wicked Lords—Stringent Laws of George II.—The Homeward-bound Vessel—Plotting Wreckers—Lured Ashore—"Dead Men Tell no Tales"—A Series of Facts—Brutality to a Captain and his Wife—Fate of a Plunderer—Defence of a Ship against Hundreds of Wreckers—Another Example—Ship Boarded by Peasantry—Police Attacked by Thousands—Cavalry Charge the Wreckers—Hundreds of Drunken Plunderers—A Curious Tract of the Last Century—A Professional Wrecker's Arguments—A Candid Bahama Pilot.

The great historian, Hallam, says: "In the thirteenth and fourteenth centuries a rich vessel was never secure from attack, and neither restitution nor punishment of the criminals was to be obtained from Government, who sometimes feared the plunderer, and sometimes connived at the offence." As we have seen before, some of the greatest names of the Elizabethan and later days were often not much better than legalised pirates. But the poor sailors and owners were not merely the prey of these sea wolves; there were then and for centuries afterwards, nearly to our own days, "land-rats" ashore, who were to the pirates what sneak-thieves were to the highwaymen of romance. Those "good old days," when "wrecking" was considered a legitimate pursuit!

In preceding chapters the maritime laws and customs of successive ages have been briefly traced. Piracy was almost openly recognised in the thirteenth and fourteenth centuries, and a foreign ship with a rich cargo was too often regarded as rightful prey. There was a constant petty warfare between maritime nations, and frequently even between towns of the same nation. Thus, in the year 1254 some Winchelsea mariners attacked a Yarmouth vessel, and killed some of her crew.

RESCUE OF THE DANISH VESSEL.

Prior to the reign of Henry I. *all* wrecked property belonged to the king. Whether it was found necessary to make the king the owner of wreckage, in order to lessen the temptation to wreck vessels and murder the crews—no unfrequent occurrence, even in the last century—or "however it was," says Gilmore, "the law existed, and the shipwrecked merchant might come struggling ashore upon a broken spar, and find the coast strewn with scattered but still valuable goods so lately his, but now by law his no longer any more than they belonged to the half-dozen rude fishermen who stood watching the torn wreck and dispersed cargo being wave-lifted high upon the beach." Henry I. decreed that neither wreck nor cargo should become the property of the Crown if any man of the crew escaped with life to shore. It is to be feared that this well-meant law led to many a heartless murder. His successor expanded the law to the extent that if even a beast came ashore alive, the wreck and goods should belong to the original owners. Even the proverbial cat with nine lives might thus save a vessel.

Richard Cœur de Lion, always truly chivalrous, would have nought to do with plundering the plundered, and he decreed "that all persons escaping alive from a wreck should retain their goods; that wreck or wreckage should only be considered the property of the king when neither an owner nor the heir of a late owner could be found for it." Some authorities will not couple the name of Richard with the "Rôles d'Oleron," but it is certain that they were first promulgated in or about his time. They afford us some idea of the terrible system of wrecking then prevalent; such laws would not have been promulgated without good reason. Note their stringency.

"An accursed custom prevailing in some parts; inasmuch as a third or fourth part of the wrecks that come ashore belong to the lord of the manor where the wrecks take place, and that pilots, for profit from these lords and from the wrecks, like faithless and treacherous villains, do purposely run the ships under their care upon the rocks," the law declares "that all false pilots shall suffer a most rigorous and merciless death, and be hung on high gibbets;" while "the wicked lords are to be tied to a post in the middle of their own houses, which shall be set on fire at all four corners, and burnt, with all that shall be therein, the goods being first confiscated for the benefit of the persons injured, and the site of the houses shall be converted into places for the sale of hogs and swine." And again, "If people, more barbarous, cruel, and inhuman than mad dogs, murdered shipwrecked folk, they were to be plunged into the sea until half dead, and then drawn out and stoned to death." The pilot who negligently caused shipwreck was to make good the losses or lose his head; but the master and sailors were, as a saving clause (principally for the owners!), to be persuaded that he had not the means to make good the loss *before they cut off his head.*

And so, without much change, the laws stood till the reign of George II.; and, alas! it does not seem that human nature, on our coasts at least, had greatly improved, for otherwise there would hardly have been necessity for a new Act, bristling with threats. The preamble states:—"That notwithstanding the good and salutary laws now in being against plundering and destroying vessels in distress, and against taking away shipwrecked, lost, and stranded goods, that still many wicked enormities had been committed, to the disgrace of the nation;" and it was therefore enacted that death should be the

punishment for hanging out false lights to lure vessels to their destruction; death for those who killed shipwrecked persons; and death for stealing cargo or wreckage, whether any one on board remained alive or not.

Every now and again some fearful tragedy, reported in our ever-vigilant press, opens our eyes to the possibilities of human degradation and depravity; but, in spite of all, thank God! these examples are few and far between. Does this not tend, at least, to show that the world now-a-days *is* better and kinder, and, in a word, more Christian-like, than in former days? Let the reader think—aye, and ponder, and think again—over the preceding paragraph. Could men—aye, and women too—assist not merely in robbery and plunder, but in first causing the wreck, and then, to cover up all, in murdering the few poor survivors? A writer from whom we have already quoted says:—

"Imagine a homeward-bound vessel, some two hundred and fifty years ago, clumsy in build, awkward in rig, little fitted for battling with the gales of our stormy coast, but yet manned with strong, stout-hearted men, who made their sturdy courage compensate for deficiency of other means; think of many perils overcome, a long weary voyage nearly ended, the crew rejoicing in thoughts of home, of home-love and home-rest, the headlands of dear Old England—loved by her sons no less then than now—lying a dark line upon the horizon, the night growing apace, the breeze freshening, ever freshening, adding each moment a hoarser swell to the deep murmurs of its swift-following blasts, the ship scudding on, breasting the seas with her bluff bows, rising and pitching with the running waves, which cover her with foam!

"Look on land! Keen eyes have watched the signs of the coming storm; men, more greedy than the foulest vulture, 'more inhuman than mad dogs,' have cast most cruel and wistful glances seaward! Yes, their eyes light up with the very light of hell as they see in the dim distance the white sail of a struggling ship making towards the land!

"And now try to imagine the scene as the night falls and the storm gathers. Two or three ill-looking fellows drop in, say, to a low tavern standing in a bye-lane that leads from the cliff to the beach in some village on our south-western coast. Soon muttered hints take form, and in low whispers the men talk over the chances of a wreck this wild night. They remember former gains; they talk over disappointments, when, on similar nights of darkness, wildness, and storm, vessels discovered their danger too soon for them, and managed to weather the headlands of the bay.

"The plot takes form; with many a deep and muttered curse the murderous decision is taken that if a vessel can be trapped to destruction it shall be.

"There is an old man of the party whose brow is furrowed with dread lines; he does not say much, but every now and then his eyes glare, and his features work as if convulsed. His comrades look at him—twice—and, as a terrific squall shakes the house, a third time. Silently he rises, and leaves the inn. . . . Now in the pitch darkness of the night, with bowed head, and faltering steps battling against the storm, the old man leads a white horse along the edge of the cliff. To the top of the horse's tail a lantern is tied, and the light sways with the movement of the horse, and in its movements seems not unlike the masthead light of a vessel rocked by the motion of the sea. A whisper has gone through the village of a chance of something happening during the night, and

most of the men and many of the women are on the alert, lurking in the caves beneath the cliff, or sheltered behind jutting pieces of rock.

"The vessel makes in steadily for the land; the captain grows uneasy, and fears running into danger; he will put the vessel round, and try and battle his way out to sea.

"The look-out man reports a dim light ahead. What kind? and Whither away? He can make out that it is a ship's light, for it is in motion. Yes, she must be a vessel standing on in the same course as that which they are on. It is all safe, then; the captain will stand in a little longer; when suddenly, in the lull of the storm, a hoarse murmur is heard—surely the sound of the sea beating upon rocks! Yes! look! a white gleam upon the water! Breakers ahead! breakers ahead! Oh, a very knell of doom! The cry rings through the ship, 'Down, down with helm—round her to!' Too late, too late! A crash, a shudder from stem to stern of the stout ship, the shriek of many voices in their agony, green seas sweeping over the vessel, and soon broken timbers, bales of cargo, and lifeless bodies scattered along the beach, while the shattered remnant of the hull is torn still further to pieces with each insweep of the mighty seas as they roll it to and fro among the rocks. Fearful and crafty the smile that darkened the dark face of the willing murderer who was leading the horse with the false light as he heard the crash of the vessel and the shrieks of the drowning crew! Fearful the smile that darkened the faces of the men and women waiting on the beach as they came out from their places, ready to struggle and fight among themselves for any spoil that might come ashore! A homeward-bound ship from the Indies! Great good fortune—rich spoil! Bale after bale is seized upon by the wreckers, and dragged high upon the beach out of the way of the surf. But, see! a sailor clinging to a bit of broken mast! With his last conscious effort he gains a footing on the shore, staggers forward, and falls. Is he alive? Not now! Why did that fearful old woman kneel upon his chest and cover his mouth with her cloak? Dead men tell no tales—claim no property!"

Alas! the above is no imaginary or exaggerated statement of facts.

A few examples, which have occurred for the most part within the last hundred years or so, are appended. They have been culled from that most rigidly correct chronicler, the *Annual Register*:—

Lent Circuit, 1774.—At Shrewsbury Assizes, bills of indictment were preferred by Captain Chilcot, late of the *Charming Jenny*, against three opulent inhabitants of the Isle of Anglesea, one of whom is said to be possessed of a considerable estate, and to have offered five thousand pounds bail in order to their being tried at the next assizes on a charge of piracy, when the bills were found. It appeared that on the 11th September, 1773, in very bad weather, in consequence of false lights being discovered, the captain bore for shore, when his vessel, whose cargo was valued at £19,000, went to pieces, and all the crew, except the captain and his wife, perished, the latter being brought on shore on a portion of the wreck. Nearly exhausted, they lay for some time, till the savages of the adjacent places rushed down upon them. The lady was just able to lift a handkerchief up to her head when her husband was torn from her side. They cut the buckles from his shoes, and deprived him of every covering. Happy to escape with his life, he hasted to the beach in search of his wife, when, horrible to relate, her half-naked

and plundered corpse presented itself to his view. What to do Captain Chilcot was at a loss. Providence, however, conducted him to the roof of a venerable pair, who bestowed upon him every assistance. The captain's wife, it seems, at the time the ship went to pieces, had two bank bills of a considerable value and seventy guineas in her pocket. At the Summer Assizes at Salop, Roberts and Parry, two of the above-named, were found guilty of plundering the *Charming Jenny*, but their counsel pleading an arrest of judgment, sentence was suspended. Eventually one was executed, and one had his sentence commuted.

On the 7th September, 1782, one John Webb was executed at Hereford for having plundered a Venetian vessel drawn on shore on the coast of Glamorganshire by stress of weather. No mention is made of hurting or molesting the crew, and it is evident that the laws were, about this time, stringently carried out. "This," said the *Annual Register*, "it is hoped, will put a final stop to that inhuman practice of plundering ships wrecked upon the coast."

Next follows an example in the present century:—"*Jany.* 8, 1811.—Another daring attempt (says the *Register*) was made by a party of country-people at Clonderalaw Bay to take possession of the American ship *Romulus* on this day. They assembled at about ten in the evening, to the amount of about two or three hundred, and commenced a firing of musketry, which they kept up at intervals for three hours; when, finding a steady resistance from the crew, and guard of yeomanry which had been put on the vessel on her first going on shore, they retired. The shot they fired appeared to be cut from square bars of lead, about half an inch in diameter. One of these miscreants dropped, and was carried away by his companions."

The following is an extract from a letter:—"On Friday, the 27th of October, 1811, the galliot *Anna Hulk Klas Boyr*, Meinerty master, from Christian Sound, laden with deals, for Killalu, was driven on shore at a place called Porturlin, between Killalu and Broadhaven. The captain and crew providentially saved their lives by jumping on shore on a small island or rock. At this time the stern and quarter were stove in. The crew remained two hours on the rock, when they were taken off by a boat and brought to the mainland. Shortly after, the captain's trunk, with all the sailors' clothes in general, came on shore, when the country-people immediately began to plunder, leaving the unfortunate sufferers nothing but what they had on their backs. The plunderers repaired to the wreck, and cut away everything they could come at of the sails, rigging, &c., while hundreds were taking away the deals to all parts of the country. Though the captain spoke good English, and most pitifully inquired to whom he might apply for assistance, yet he could not hear of any for fourteen hours, when he was told that Major Denis Bingham was the nearest and only person he could apply to. With much difficulty he procured a guide, and proceeded to Mr. Bingham's, a distance of twenty miles through the mountains. In the meantime, after thirty-six hours' concealment of this very melancholy circumstance, Captain Morris, of the *Townshend* cruiser, who lay at Broadhaven, a distance of about ten miles from the wreck, heard of it, and, approaching it, landed with twenty men, well armed. In coming near the wreck he first fired in the air, in order to disperse the peasantry, which had no effect; he therefore ordered his men to fire close,

which had the desired effect, when he immediately pursued them into the interior, from three to five miles distance, dividing his party in different directions, when, by great exertion and fatigue, they saved about 1,800 deals and a remnant of the wreck. Captain Morris had some of the robbers taken, but his party being so scattered, they were rescued

WRECKERS WAITING FOR A WRECK.

by a large mob of the country. The unfortunate captain and crew were taken by Captain Morris on board his cutter, where they got a change of clothing, and were taken every possible care of."

The following particulars of the wreck and plunder of the *Inverness*, in the river Shannon, loaded at Limerick with a cargo of provisions, under contract for the Victualling Board, and bound to London, will be found interesting:—

"From Captain Miller to Mr. Spaight, Merchant, Limerick.

"Kilrush, Feb. 24, 1817.

"DEAR SPAIGHT,—As I am now in possession of most of the particulars of the wreck of the *Inverness*, I shall detail them to you as follows:—

"She went on shore on Wednesday night, the 19th instant, mistaking Rinevaha for Carrigaholt, and would have got off by the next spring-tide had the peasantry not boarded her, and rendered her not seaworthy by scuttling her and tearing away all her rigging; they then robbed the crew of all their clothes, tore their shirts, which they made bags of to carry away the plunder, and then broached the tierces of pork, and distributed the contents to people on shore, who assisted to convey them up the country. The alarm having reached this on Thursday, a sergeant and twelve of the police were sent down, with the chief constable at their head, and they succeeded in re-taking some of the provisions and securing them, driving the mob from the wreck. The police kept possession of what they had got during the night; but very early on Friday morning the people collected in some thousands, and went down to the beach, where they formed into three bodies, and cheered each other with hats off, advancing with threats, declaring that they defied the police, and would possess themselves again of what had been taken from them, and of the arms of the police. The police formed into one body, and, showing three fronts, endeavoured to keep them at bay, but in vain; they assailed them with stones, sticks, scythes, and axes, and gave some of our men some severe blows, which exasperated them so much that they were under the necessity of firing in self-defence, and four of the assailants fell victims, two of whom were buried yesterday. During their skirmishing, which began about seven o'clock, one of the men, mounted, was despatched to this town for a reinforcement, when Major Warburton, in half an hour, with twenty cavalry, and a few infantry mounted behind them, left this, and in one hour and a half were on board the wreck, and took twelve men in the act of cutting up the wreck. One of them made a blow of a hatchet at Major Warburton, which he warded off, and snapped a pistol at him; the fellow immediately threw himself overboard, when —— Troy charged him on horseback, up to the horse's knees in water, and cut him down. The fellows then flew in every direction, pursued by our men, who took many of them, and wounded several. Nine tierces of pork had been saved. Her bowsprit, gaff, and spars are all gone, with every stitch of canvas and all the running rigging. The shrouds are still left; two anchors and their cables are gone, and even the ship's pump. A more complete plunder has seldom been witnessed. Yesterday the revenue wherry went down to Rinevaha, and returned in the evening with the Major and a small party, with thirty-five prisoners, who now are all lodged in Bridewell. The women in multitudes assembled to supply the men with whisky to encourage them. Nothing could exceed the coolness of —— Balfice and his party, who certainly made a masterly retreat to the slated store at Carrigaholt, where I found them. He and Fitzgerald were wounded, but not severely. Fitzgerald had a miraculous escape, and would have been murdered, but was preserved by a man he knew from Kerry, who put him under his bed. "J. MILLER."

A late case of plundering on a large scale occurred the 26th September, 1817. The

Norwegian brig *Bergetta*, Captain Peterson, was wrecked on the Cefu-Sidau sands, in Carmarthen Bay. She was bound from Barcelona for Stettin, with a cargo of wine, spirits, &c., when the master, losing his reckoning, owing to a thick fog, fell into the fatal error of taking the coast of Devon for that of France, and acted under that persuasion. So circumstanced, a violent gale, together with the tide, drove the vessel into the Bristol Channel, and she struck upon the above sands, and in the space of two or three hours went to pieces. The master and crew, with great difficulty, got into the boat, and were all happily saved. Notwithstanding the greatest exertions on the part of the officers of the Customs, supported by several gentlemen and others, acts of plunder were committed to a considerable extent. Of 266 pipes and casks of wine, &c., not above 100 were saved. Hundreds of men and women were reduced to nearly a state of insensibility through intoxication.

A scarce and curious tract, published in 1796, exists in the library of the British Museum, and a few extracts from it will show the arguments by which the wreckers of the last century salved their consciences. It is supposed to be a dialogue between one Richard Sparkes, a chandler by trade, but a professional wrecker also, and John Trueman, "an honest taylor."

"'Good news! good news, neighbour!' said Richard Sparkes, the chandler, as he entered a shop where John Trueman, an honest taylor, was at work. 'The vessel which has been these three hours fighting with the surge and winds for the harbour has at last bulged. It is a trader from Amsterdam, they say, and faith! two thumping casks were floating before I left the beach. Rare sport, Master Trueman, rare sport, let me tell you! A good blustering wind and a high surf is no bad thing for a seaport.'

"Honest Trueman, who had not been long an inhabitant of the place, and was quite unacquainted with this language—which, to the disgrace of humanity, is too often used by the unfeeling on such occasions in seaport towns—suspended his work, and listened to this harangue with too much surprise to interrupt it. At length, said he, 'Do you call this rare sport? Do you call this good news?'

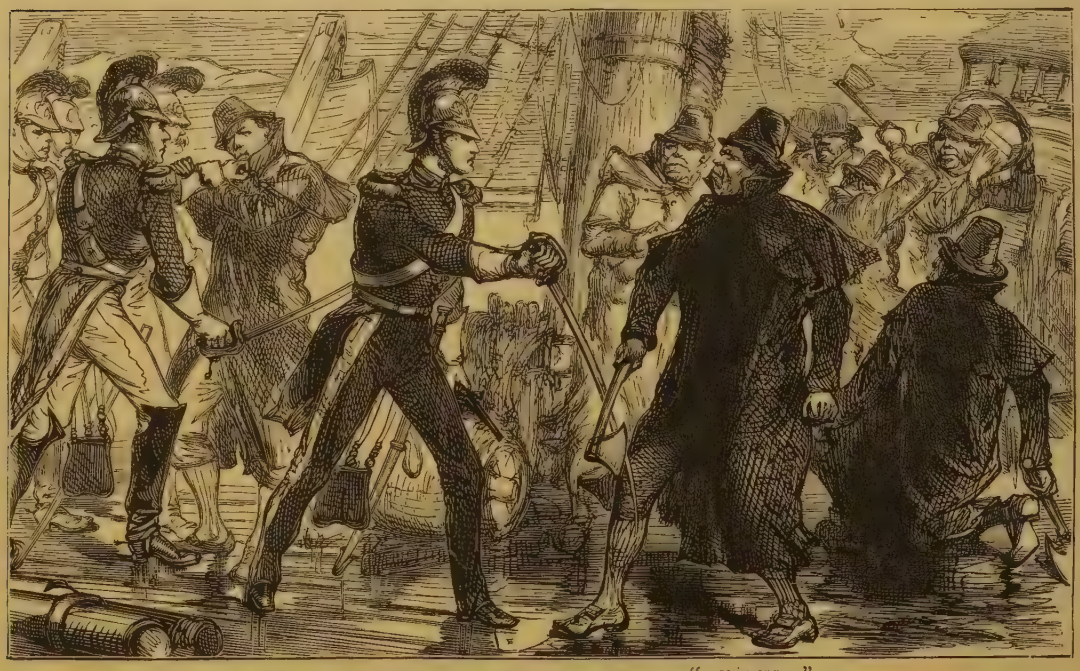
"Sparkes. 'To be sure I do. I mean to be out all night; the tide will return in about three hours, and I warrant it will bring us something worth looking after. But mayhap, as you are a new-comer, Master Trueman, you do not know the go at these seasons, so I will tell you. You must know that when a vessel strikes it is catch as catch can for her lading: one has as good a right as another, and he is the luckiest who can get most. We call it *going a wrecking;* and let me tell you it is no bad business. There is my neighbour Perkins, the pilot, got the Lord knows what by the smuggling cutter that was wrecked about three leagues from hence two months ago. Ay, cask upon cask of the best French brandy, and tea, and I cannot tell you what he got; but he has held his head pretty high ever since, for, as good luck would have it, she struck upon a shoal of rock where the Custom-house officers would not venture, so Perkins and a few more knowing ones had it all to themselves. As I told you before, Master Trueman, this *going a wrecking* is no bad business, so look about you.'"

Trueman upbraids the first speaker with dishonesty and want of humanity.

"'Humanity,' says Sparkes, 'odds my life! neighbour, there's not a more tender-hearted fellow alive. Many is the life my boat, when I was in the fishing trade, has saved from pure good-will; but as to the matter of the *wrecking*, every man must take care of

his own interest. Charity, you know, Master Trueman, should begin at home.'" And he goes on to say that it was no fault of his that the vessel bulged, or that the master or cabin-boy were drowned; that it is all the chance of war, and that one vessel was the same to him as another, provided it were well laden. He added that he did not pretend to be better than his grandfather, and that wrecking was in fashion in his days and in those of his good old father before him.

Mr. D. Mackinnen, who made a tour through the West Indies early in the present century, particularly mentions the Bahamas as the home of wreckers. He says that the immense variety of banks, shallows, and unknown passages between the hundreds of islands



MAJOR WARBURTON AT THE WRECK OF THE "INVERNESS."

which form the group render the chances of shipwreck frequent. In order to save the crews and property so constantly exposed to danger, the Governor of the Bahamas, about the commencement of this century, licensed a number of daring adventurers to ply up and down and assist ships in peril, and there could not have been collected a more skilful and hardy set of men. But, unfortunately, the governor's good intentions were baulked by the larger part of them becoming wreckers. Mr. Mackinnen asking one of these men what success he had lately had, was told that there had been about forty sail of pilots along the Florida coast for four months. He remarked that they must have rendered great service to the crews wrecked in that dangerous passage. The pilot said, "No; they generally *went on* in the night." "But could not you light up beacons on shore?" "No, no," said the man, laughing, "we always put them out for a better chance by night." "But it would have been more humane——" "I did not go there for humanity; I went *racking!*"

CHAPTER XIX.

"HOVELLING" *v.* WRECKING.

The Contrast—The "Hovellers" defended—Their Services—The Case of the *Albion*—Anchors and Cables wanted by a disabled Vessel—Lugger wrecked on the Beach—Dangers of the Hoveller's Life—Nearly swamped by the heavy Seas—Loss of a baling Bowl, and what it means—Saved on an American Ship—The Lost Found—A brilliant example of Life-saving at Bideford—The Small Rewards of the Hoveller's Life—The case of *La Marguerite*—Nearly wrecked in Port—Hovellers *v.* Wreckers—"Let's all start fair!"—Praying for Wrecks.

THE wrecker was a land-ghoul, a monster in human form, who preyed on human life and property. The "hovellers," a distinctive term on many parts of the coasts of this sea-girt isle, is applied to the hardy men who, in all weathers and at all risks, go to the assistance of ships in distress, and occasionally benefit by a wreck, but they are not wreckers. The Rev. Mr. Gilmore, who has so well described the dangers, perils, and triumphs of the life-boat service, very properly includes among the storm warriors the honest men who perform these practical deeds of naval daring. Visitors to Ramsgate and other seaside resorts of the southern coast will remember the luggers in which holiday excursions are made; many of these same boats are, in winter more especially, engaged in very serious work. "The more threatening and heavy the weather," says our authority, "the greater the probability of disaster occurring or having occurred, then the more ready are the crew to work their way out to the Goodwin Sands, and to cruise round them on the look-out for vessels in distress; they dare not take the lugger into the broken water—there a life-boat alone can live: but still, she is a grand sea-boat, one that will stagger on, with a ship's heavy anchor and chain on board, through weather bad enough for anything—a boat that is well suited for the hard and dangerous service which employs her during the winter months." The hovelling lugger has generally a crew of ten men, and these receive no regular pay. Any salvage or reward the vessel earns is commonly divided into fourteen shares; the boat takes three and a half for the owners, half a share goes for the provisions, and each man of the crew receives one share. Mr. Gilmore says that "complaints are sometimes made of the amounts charged by these men for services rendered; but the cases of a good hovel are few and far between; and often the luggers put out to sea night after night throughout a stormy winter, hanging about the sands, in wind and rain, and snow and mists, the men half-frozen with the cold and half-smothered with the flying surf and spray, and often week after week they thus suffer and endure, and do not make a penny-piece each man; then at last, perhaps, comes a chance: a big ship is on the tail of a sandbank; they render assistance and get her off; they have saved thousands of pounds worth of property; and the captain, and the owners, and the underwriters all look aghast, and cry out with indignation when they ask perhaps a sum that will give them ten or fifteen pounds a man."

Not uncommonly the lugger speaks a vessel, and finds that an anchor or anchors, cables, &c., have been lost, and must be replaced. They must make in all haste for shore, and obtain what is needed, and put out again to the distressed vessel. What all this may mean on occasions to the owners and men of the hovelling vessels is shown in the following example—the case of the *Albion* lugger.

The *Albion* meets a vessel driving before the gale, having lost both her anchors and cables; receives orders to supply her from shore; and the hardy crew, putting the vessel round, beat through the heavy seas, and make for Deal. "They have to force the boat against wind and tide, and much skill is required to prevent her being filled by the rising seas which sweep around her; now she rushes upon the beach, the surf breaks over her and half fills her with water; with a tremendous thump and shake she strikes the shore with her iron keel.

"As the wave which bore the lugger in upon the beach recedes, a man springs overboard from the bow with a rope in his hand; many catch hold of the rope, and haul their hardest to keep the boat straight, head on to the beach; there is a stem strap—a chain running through a hole in the front part of the keel; a boatman watches his opportunity, and, as a wave sweeps back, rushes down and passes a rope through the loop of the strap; the other end of this rope is fastened to a powerful capstan, which is placed high up on the beach. 'Man the capstan! Heave with a will!' and the strong men strain at the capstan bars until the capstan creaks again. There is no starting the lugger: she is so full of water from the surf breaking on the beach that she is too heavy for the men at one capstan to move her; ropes are led down from two other capstans, and rove through a snatch-block fastened to a boat on the beach; all put out their strength, round they tramp, with a 'Ho! heave ho!' and slowly the lugger travels up the beach, and is safe from the roll of the breakers. The men get the water out of her, haul her higher up on to a swivel platform, turn her round head to the sea, and the leading hands hurry away to inquire about an anchor and cable. The agent supplies them with such as seem suitable for the size of the vessel, and which will perhaps weigh together about seven tons." Then follows the labour of getting them on board, but in a short time all are ready for sea.

"The gale has rapidly increased in force, and a frightful surf is running on the beach; the roar of the breakers on the shingle, the howling of the storm, the gleam of white foam shining out of the mist and gloom, all picture the wildness of the storm; but the undaunted boatmen do not hesitate. All is ready; the signal given; the boat rushes down the steep ways, and is launched into the sea. A breaking wave rolls in swiftly, it meets the bow of the lugger in its rush, fills her; for a moment the big boat runs under water, and then is lifted and twisted like a toy in the grasp of the sea, and is thrown, in the heave of the wave, broadside on to the beach; a cry of horror from all on shore, and a rush down to aid the crew, who are all—there are fifteen of them—struggling in the surf: now the men are washed up by the wave, and feel the ground and stagger forward; now they are caught again by a breaker and rolled over; it is for each of them a terrible battle with the fierce seas; here one gets on his feet and stumbles forward, he is caught by the men on shore and dragged up the beach; there a man is lying struggling on the shingle, trying in vain to rise, exhausted and confused, two men seize his collar, and pull him forward a yard or two, then get him to his feet, and he escapes the next wave, which would have washed him out to sea again. Now all the men seem to be saved; names are shouted—do all answer? No; there is one missing! All rush to the water's edge and gaze into the darkness, eagerly watching each shadow mid the surf. 'There he is!' No!

Yes it is! there—lifting on the surf! there, rolling over!' 'Quick! quick! form a line!' And the brave boatmen grasp each other's hands with iron strength, and form a chain, the lowest of the four or five men at the sea end of the chain being in the water. The waves battle with them, but sturdily they persevere. At last the body is within reach of the seaward man; he grasps it; the men are dragged up the beach, and the poor insensible man is carried ashore. Alive or dead? They cannot say; and with a great fear in their hearts they carry him hurriedly up the beach, and soon, to the great joy of all, he gives signs of life, and gradually recovers.

"In the meanwhile, the poor boatmen on the beach have nothing that they can do but watch their fine boat, which was worth five hundred pounds, being torn and hammered to pieces in the surf. Plank after plank is wrenched from her. Now, with a loud crash, she is broken in half; the two halves part; the anchor and cable fall through her. They can see part of the forepeak, with one side torn away, floating in the breakers; soon that also is rent to pieces, and nothing but fragments of the boat float in the surf or are strewn about the beach; and the boatmen, heavy-hearted, but thankful that they have escaped with their lives, go slowly to their homes to rest for a few hours and recruit their strength, and then be ready to form part of the crew of any other boat, and at the first summons to rush out again to the encounter with the stormiest seas." And that what the men of Deal are *par excellence*—hardy, brave, and skilful—the men of our coasts are very generally.

Sometimes the hovellers are distinctly associated with the life-boat men in their efforts to save life. Gilmore cites a case where a lugger's boat had succeeded in taking a number of men off a wreck, when they themselves were caught in a squall, and were only too glad to make for the life-boat, to which the larger part were transferred. Then came a chapter of difficulties, for neither steamer nor lugger could be discovered through the fog, which obscured everything within a few yards of them. When they at length reached the *Champion* lugger, the shipwrecked crew refused to leave the life-boat. They had been as nearly as possible wrecked a second time in the lugger's boat. What a story had these poor men to relate!

Their vessel, the *Effort*, had been beaten about for days in the North Sea previous to grounding on the fatal Goodwins. They hoisted lamps, and were preparing to set a tar-barrel on fire, when their ship, which was very light, rolled from side to side, almost yard-arms under, and then suddenly capsized altogether. "At once," said one of the narrators, "and with difficulty, we made for the weather rigging, and were glad to find that not any of the crew were lost as she fell over. We lashed ourselves to the rigging. We knew, to our great joy, that the tide was falling; had it been rising, we must have very soon been overrun by it, the vessel broken up, and every man of us lost. We were in danger enough as it was, for the brig, soon after she capsized, was caught by the tide, and worked round, with her deck towards the seas; and as the heavy seas broke over and came rushing up the deck, they fell on us with terrible weight, and beat us and crushed us against the ship's rail, so that we were forced to unlash ourselves from the rigging; and what to do we did not know, till one of us said, 'Our only chance is to lash the end of the ropes round our waists, and let go the rigging as the waves

LOSS OF THE "ALBION" LUGGER.

come.' And so we did; and terrible work it was. As the waves came we slackened the ropes and went away a little with them; and as they passed, half smothered as we were, hauled ourselves back to the rigging and held on a bit; and then, when the next wave came, we let go, and were all adrift in the wash again; our hands were almost torn to pieces with the strain on the ropes and grasping at the side of the vessel. . . . You see, too, how our clothes were nearly dragged off us: it was indeed an awful time!" One man grew terribly excited as they told the dismal story. His limbs and features worked, and as the waves dashed over the life-boat he fancied himself being washed off the wreck, and his reason quite gave way for the time. He shouted out, "Let me drown myself! Let me drown myself! I can stand it no longer!" and was with the greatest difficulty held back by three men, who would not relinquish their hold till they got safe into harbour.

The hoveller's life is necessarily full of danger, for his services are usually only required in the very worst weather; and if he can save anything from a wreck, it will generally be done under circumstances of great difficulty. Gilmore cites an example where some of these men were endeavouring to save the rigging of a wrecked vessel, when a squall came on, with driving snow and hail. The men in the rigging were somewhat interested in their work, and were at first inclined to risk the weather, but the gale increased so rapidly that it became evident that they must leave in their boat at once. Away for their lives the men pull, the little boat seethes through the troubled waters, and they soon near the edge of the sand, and are making for deep water, when they suddenly hear the noise of the surf beating on the shallows immediately ahead of them. They pull ahead a little, and can see the huge waves rolling in out of the deep water, mounting up, curling over, and breaking, meeting other breakers, foaming up against them—in fact, a sea of raging waters surrounding the sands in which their little boat would be swamped at once. As they mount on a wave they can see the lugger riding safely just outside the surf, only a quarter of a mile off, but that quarter of a mile it is impossible for them to pass, and equally impossible for the lugger to get any nearer to them. The seas break over them constantly, and for a while they return to the dangerous shelter of the wreck.

"The Goodwin Sands are about nine miles long; in the middle of them there is, at low water, a large lake, which is called on the chart 'Trinity Bay,' but which is known to the boatmen as the 'In-Sand.' The men row in the direction of the lake, and row over the sandbanks which surround it, as soon as the tide has flowed sufficiently to enable them to do so. Now they find themselves in completely smooth water, and are safe; but for how long? a short hour or so, for the hungry waves are following them up fast. Still higher and higher comes the tide, and a furious surf begins to rage over the banks that for a time protect the lake." Well do the men know how short must be their period of rest.

Soon the heavy rollers come in and threaten to swamp them; the boat is nearly full of water. At this juncture the steersman, who has been steering and baling the boat for about four hours, suddenly lets the bowl with which he is baling fly from his hand; he gives a cry of horror, and the men cannot help repeating it, for may not this apparently small accident be fatal to them? To keep the boat afloat without baling is impossible; the surf breaks into her continually, and that bowl is indispensable to their safety,

for the men cannot use their sou'westers for the purpose when both hands are so busily employed in freeing their oars from the seas and keeping the blades from being blown up into the air by the force of the gale. Most happily, the bowl is a wooden one, and it floats a few yards from them. The men watch it anxiously as they are tossed up and down by the quick waves. Back the boat down upon the bowl they cannot, and it is drifting away faster than they are floating. It would seem a simple matter to pick up a bowl floating within a distance so small, but the waves long render it impossible. Suddenly the coxswain cries, "Here is a lull; round with her sharp!" The men on the starboard side give a mighty pull, and the others back their hardest; then a pull altogether; the bowl is within reach; the coxswain grasps it with a hasty snatch. "Round! round with her quick!" and the boat is got head straight to the seas again before the waves can catch her broadside and roll her over. All breathe again: they have another chance of life.

They get clear of the Sands, but a fierce gale is still raging. "As they get into the Gull stream, they see vessel after vessel running with close-reefed topsails before the gale; the boatmen hail them, but they get no answer. One little sloop affords them slight hope, for she is evidently altering her course, but after a moment's apparent hesitation, away she goes again before the gale, and abandons them to their fate. The captain of the little vessel related afterwards how, in the height of the storm, he saw some poor fellows in a small boat, and had a great wish to try and save them, but the sea was running so high that he felt it was impossible to heave his vessel to, and so had to leave them, and that they must have been driven on the Sands and lost. This sloop was about a quarter of a mile from the boat, and the men do not again get as near to any other ship; and as vessel after vessel passes, and the night begins to grow dark, the position of the men becomes more and more hopeless, and they all feel that if no vessel picks them up they must soon be blown in again upon the sands, and there perish." The men work on, but solemnly, very solemnly.

But one vessel, a large American ship, remains at anchor in the Downs; vessel after vessel had slipped their cables and run before the gale. It is their last hope. "As they drop slowly towards her, they shout time after time, but cannot make themselves heard, and it is getting too dusk for them to be seen at any distance; the seas are running alongside the ship almost gunwale high, and it is impossible to get nearer to her than within fifty yards. Hail after hail the men give; still they get no answer. They can see a man on the poop, but he evidently neither sees nor hears them, and their last chance seems slipping away, for they are fast drifting past the vessel. 'Get on the thwart, Dick, and shout with all your might!' the coxswain says to the man pulling stroke oar. 'I'll hold you!' hauling in his oar and catching it under the seat. The man springs upon the thwart, and balancing himself for a second, hails with all his force."

"The man is moving; he hears us, hurrah!" is the glad cry in the boat; and they can soon see several astonished faces peering over them. The boat drifts by the ship; they give a pull or two, to get her under the stern of the vessel; a coil of rope with a life-buoy is thrown to them, and they manage to get it on board. The captain is now on deck; he orders other ropes to be sent down, and soon another life-buoy, with cord attached, comes floating by. Still the boat is in great danger; their safety hitherto has been in floating

with the waves, yielding to them as they rolled on, but now the little boat has to breast the waves, and is tossed high in the air, and again plunged far down, running great risk of being overturned. "The difficulty now is how to get the men out of the boat, for they dare not haul her up closer to the vessel, as she will not ride with a shorter scope of rope. They send another rope down to the boat, with a bowline knot made in it, for the men to sit in, and then shout to the men, 'We will haul you on board one at a time!'" A moment's question as to the order in which the men shall go is quickly decided, for each feels that at any moment the boat may sink or upset. They leave in the order in which they sit, and one after another they plunge into the waves, and are hauled on board, dripping, but saved! Very soon the boat fills and turns over, and hangs by the ropes till morning.

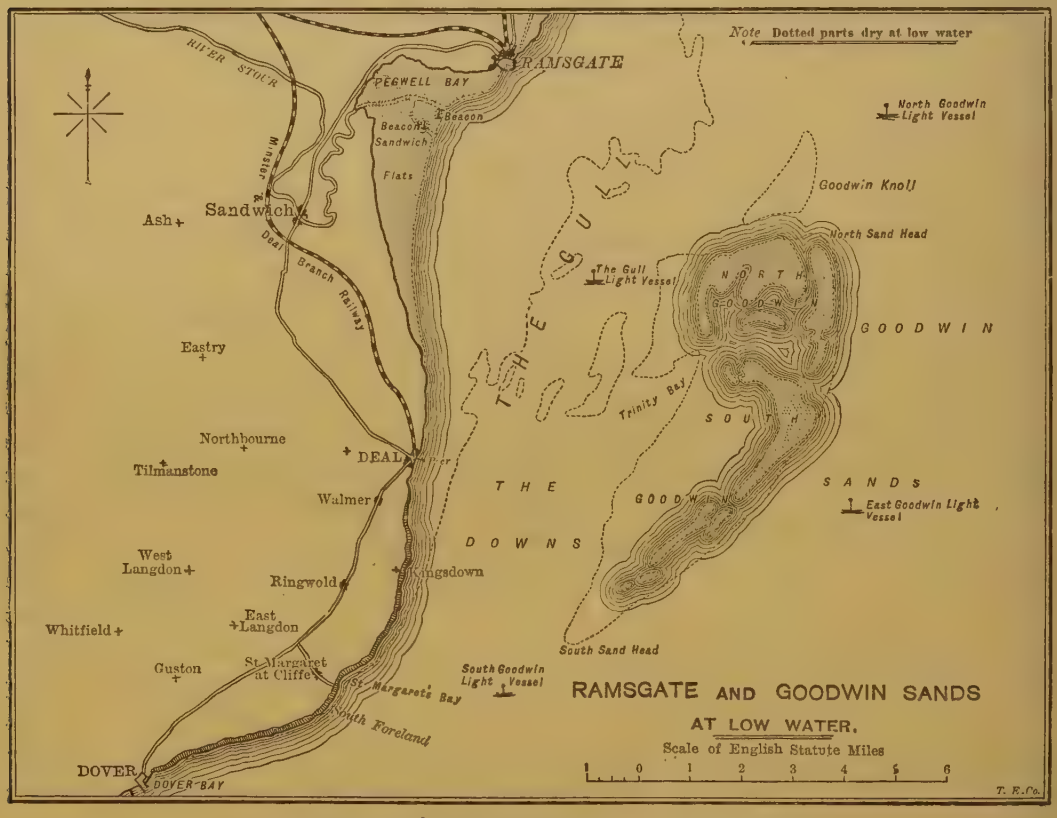
The captain will hardly credit their story at first. "Impossible! impossible!" says he. "No boat could live in such a sea, and over the Sands. Impossible!" But he becomes convinced at last, and all on board show every attention and kindness. A little brandy and some dry clothes at once, a beefsteak supper and a glass of grog later on, followed by warm beds made up on the captain's cabin floor, and their adventures in an open boat were but the memory of a horrid dream. The coxswain, however, fell very ill soon after, and was nigh death's door; he did not recover his strength for a twelvemonth, so greatly had the anxiety of that night's work told upon him.

Meantime, the lugger, after cruising backwards and forwards, the crew keeping an anxious and fruitless look-out for their comrades in the boat, is obliged to put in for Dover, from whence they telegraph the sad news that six of their men are to all appearance lost. Next morning they make one more effort to find some traces of their lost companions, and then steer, sad and disheartened, for Ramsgate. There the arrival of the lugger is most anxiously awaited. Alas! it is as they feared, and many a household is plunged in grief. While this is going on, the boatmen leave the American ship and row steadily for Ramsgate, near which they fall in with another lugger, on which they are taken. The lugger's flag is hoisted, in token that they are the bearers of good news, and great is the curiosity of the men about the harbour. A crowd hurries down the pier to watch her arrival, and as soon as the men missing from the *Princess Alice* are recognised, the cheers and excitement are wild in the extreme. Men rush off to bear the good news. "One poor woman, in the midst of her agony and mourning for her husband, and surrounded by her weeping friends, is surprised by her door being burst violently open, and at seeing a boatman, almost dropping with breathlessness, gasping and gesticulating and nodding, but trying in vain to speak; and it is some seconds before he can stammer out, 'All right! all right! Your husband is safe—coming now!'"

The danger incurred by the hovellers is well illustrated by the following example, recorded by our leading journal* some years since. Nine of these men endeavoured to save a sloop, the *Wool-packet*, of Dartmouth, stranded on Bideford Bar, and the crew must have lost their lives but for the noble service performed, under great risks, by Captain Thomas Jones, master of the steam-tug *Ely*, of Cardiff. A shipowner of Bideford, who was an eye-witness of the brave deed, stated that the crew of the vessel had aban-

* *The Times*, November 5th, 1866.

doned her, and the two boats' crews, consisting of nine men, afterwards boarded the wreck, with the view of trying to get her off the bar; but when the tide rose the sea broke heavily over the vessel, and the men hoisted a flag of distress. The steam-tug *Ely* now hastened to the rescue, against a strong tide and wind. Before, however, she could get near the wreck, the nine men were driven to seek refuge in the rigging. The sea was breaking fearfully in all directions and the vessel rolling from side to side, but Captain Jones and his crew bravely proceeded through the broken water, at



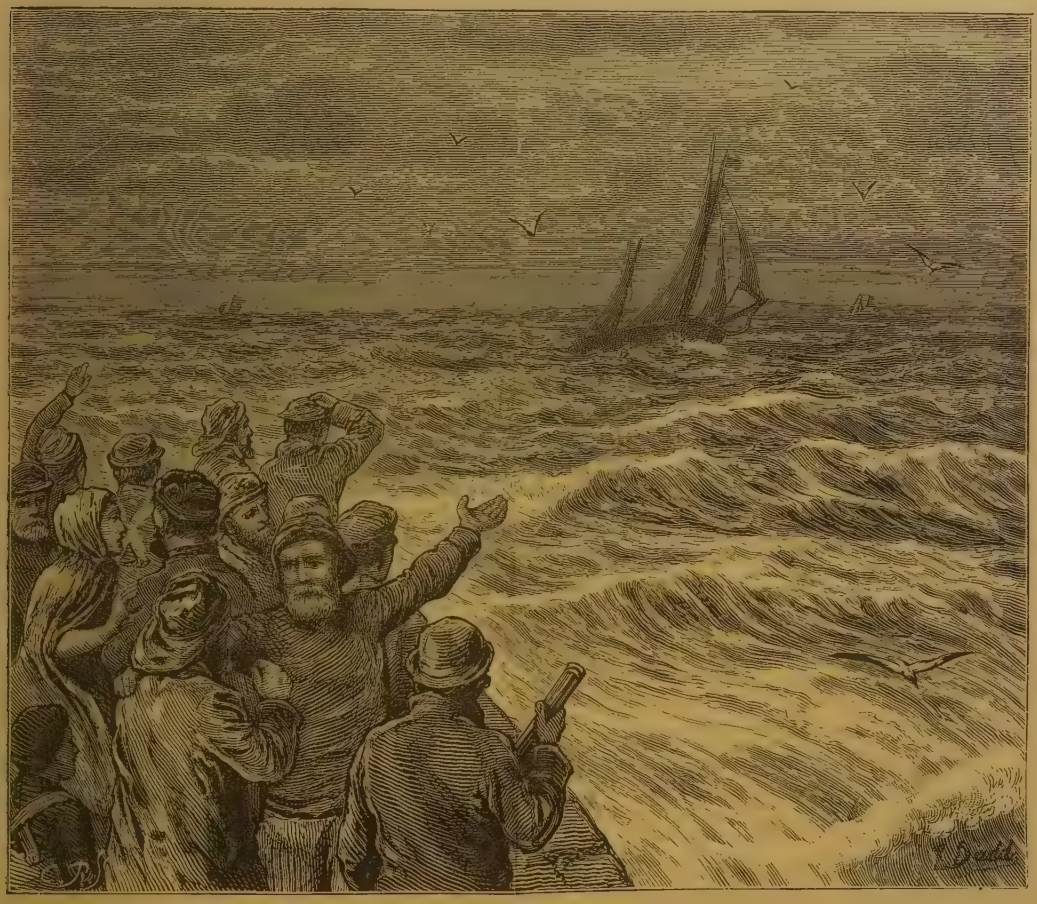
MAP SHOWING COAST OF RAMSGATE AND THE GOODWIN SANDS.

the risk of their lives and vessel, and succeeded, at the first attempt, in saving three of the men. This was all that they could then accomplish, for the sea was now breaking so furiously over the wreck that the steamer was driven away; and the same want of success attended a second and third attempt to approach the wreck. The captain then backed astern, and, with consummate skill and boldness, actually placed the steamer alongside the vessel's rigging, with her bow over the deck of the wreck, thus saving the six men in the rigging; and within the short space of two minutes the wreck had actually disappeared, and was not seen afterwards. But for this bold and successful service, nine widows (for the nine rescued men were all married) and forty fatherless children would to-day be lamenting the loss of husbands and fathers. The

WRECK OF THE "WOOL-PACKET" ON BIDEFORD BAR.

National Life-boat Institution presented a medal, &c., to the captain, and £1 each to the eight men forming the crew.

The greatness of the risk to the hoveller, and the comparative smallness of his reward, are illustrated in the case of *La Marguerite*, a small French brig, rescued from the Goodwin Sands and brought safely into Ramsgate Harbour. She was owned by her captain, and represented to him the labours of a hardworking life. She was bound



THE LUGGER REACHING RAMSGATE HARBOUR.

from Christiania to Dieppe, with a cargo of deals, and was considerably hampered on deck, the timber being piled up almost to her gunwale. She lost her course in the night, and grounded on the Sands. "Where are they? Where can they be? What horrible mistake have they made?" writes Mr. Gilmore in his forcible manner. "They think they must have run somewhere on the mainland on the Kent coast; one man proposes to swim ashore with a rope, but the seas come sweeping over them with a degree of violence that quite does away with any thought of making such an attempt. They hurry to the long-boat, to try and get it out, but it and the only other boat

which is in the brig are speedily swept overboard by the seas. The vessel is on the edge of the Sands, and feels all the force of the waves as they roll in and leap and break upon the bark. With every inrush of the seas she lifts high, and pitches, crushing her bow down upon the Sands, each time with a thump that makes her timbers groan, and almost sends the men flying from the deck." For some twenty minutes she keeps thrashing on the Sands, when they glide off into deep water, and after much delay get their anchor overboard. The gale continues, and, after much entreaty—for the captain is a poor man—the crew succeed in inducing him to cut the foremast away, and the brig rides more easily when this is accomplished. They wait for daylight. They are then seen from Margate, and two fine luggers have a race to see which can get first to the vessel. The life-boat also puts off. One of the luggers gets alongside in fine shape, and the men at once recommend the captain to cut away the remaining mast, but he will not be persuaded. They raise the anchor, and passing a hawser on board, attempt to tow the brig from the Sands, but make little progress. To their satisfaction, they see the Ramsgate steam-boat and life-boat making their way round the North Foreland.

"The coastguard officer at Margate, when he saw that the Margate life-boat could not reach the brig, and knowing that if any sea got up where the vessel was that the luggers could be of no use, telegraphed to Ramsgate that the vessel was on the Knock Sands. The steamer and life-boat get under weigh at once, and proceed as fast as possible to the rescue. There is a nasty sea running off Ramsgate, but it is not until they get to the North Foreland that they feel the full force of the gale. Here the sea is tremendous, and as the steamer pitches to it the waves that break upon her bows fly right over her funnel—indeed, she buries herself so much in the seas that they have to ease her speed considerably to prevent her being completely overrun with them." The boatmen at last get on board the brig; a glance shows that no time must be lost, and as rapidly as possible the steamer is enabled to take the water-logged vessel in tow. The French crew are utterly exhausted with fatigue and excitement, and are quite ready to leave their vessel in English hands. Away the brig goes, plunging and rolling, with the seas washing over her decks, which are scarcely out of the water, while the two boats are tossing astern, all being towed by the gallant little steamer. They have nearly reached the harbour.

In spite of the rough cold night, the interest in life-boat work is too great for all sympathisers to be driven away from the pier-head; and there is a crowd there ready to watch the boats return and to welcome the men with a cheer. The steamer approaches cautiously, and the brig seems well under command. A couple of minutes more and all will be safe, when suddenly the rush of tide catches the wreck on the bow; she overpowers the lugger, which is towing astern; round her head flies; she lurches heavily forward, and strikes the east pier-head. Crash goes her jib-boom first, and the steamer, towing with all its might, cannot prevent her again and again crushing against the pier. Her bowsprit and figure-head are broken and torn off, her stern smashed in. Ropes and buoys are thrown from the pier. "The poor Frenchmen are almost paralysed by the scene and by excitement—they cannot make it out; the harbour-master, Captain Braine, has enough to do: he sees the danger of the men on

board the brig, but he sees more than this—he sees the danger of the crowd at the pier-head, for the brig's mainmast is swaying backwards and forwards, coming right over the pier as the vessel rolls, and threatens to break and come down upon the people as the brig strikes the pier; and if it does it will certainly kill some, perhaps many." Women shriek and men shout, and it looks as though the *Marguerite* would be wrecked in sight of all. Meantime the crew of the hovelling lugger are in equal, if not greater, danger.

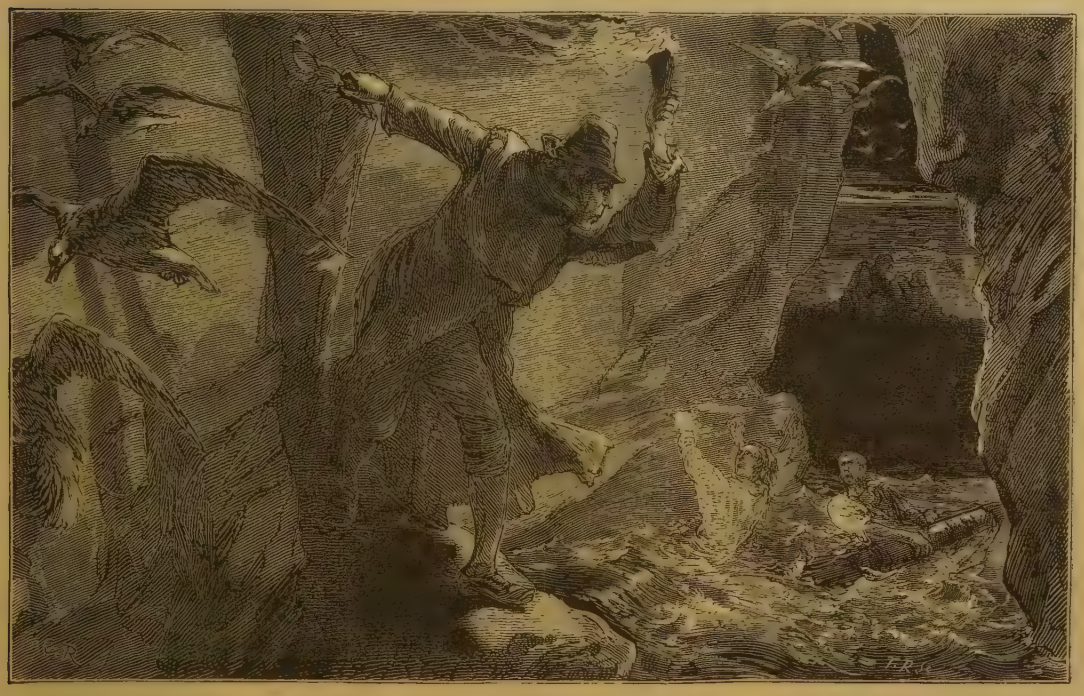
"As soon as the men on board the lugger saw the brig sweep and crash against the pier, they cast off their tow-rope, but before they could hoist any sail, the way they had on the boat and the rush of the tide carried the lugger almost between the vessel, as she swung round, and the pier. The men, however, escaped that danger, and indeed death, but the boat was swept to the back of the pier, and in the eddy of the tide was carried into the broken waters; then she rolls in the trough of the sea; wave after wave catches and sweeps her up towards the pier, as if to crush her against it, but each time the rebound of the water from the pier acts as a fender and saves her from destruction; but she is an open boat, and if one big wave leaps on board it will fill her, and she must sink at once; and the seas around her are very wild, the surf from their crests breaks into her continually. The people on the pier see her extreme peril; some run to the life-boat men, who are preparing to moor the boat, and shout to them to hasten out—that the brig is breaking up, and that the lugger will be swamped; before, however, the life-boat can get out the brig is towed clear of the pier, and, the lugger having drifted to the end of the pier, the men are able to get up a corner of the foresail; it cants the lugger's head round; the men get the foresail well up: it fills; she draws away from the pier and away from the broken water, and is clear." But now the brig, the rudder of which had been wrenched out of her on the Sands, has no boat to help her steer, and lurches about in all directions. A heavy sea strikes her bow; the steamer's hawser tightens, strains, and breaks! Excited people on the pier crowd round the harbour-master, and beg him to order the life-boat men to take the crew and the boatmen off the wreck at once. That official knows, however, the boatmen too well: *they* will not leave her while a stitch holds together.

The captain of the steamer knows their peril, and backs his vessel down to the wreck, now not over a hundred yards from the Dyke Sand. She is rolling heavily, and the seas sweep over her; her crew can hardly keep the deck. The steamer gets close to the brig, and soon another cable is out. Each time the brig sheers heavily to one side or the other she is brought up with a jerk that makes the steamer tremble from stem to stern, but that plucky little boat is not to be beaten. Five brave fellows come off from the pier in a small boat, bringing a line with them: with this they haul a second hawser to the wreck; a crowd of people on the pier pull their hardest, and succeed in moving the wreck. This cable breaks shortly afterwards, but the steamer has by this time again got hold of the vessel, and tows her safely into the harbour, a miserable wreck, with masts and rudder gone, her bow and stern crushed, but with everybody safe on board. The *Marguerite* was ultimately repaired and sent to sea again, though she could never be the vessel she once was. And the Margate and Ramsgate men got a few pounds each for work that required each one to be a hero, and a very practical and sea-

manlike hero too. The old wreckers made ten times the money, with an infinitesimal proportion of the trouble.

Yes, times *have* changed for the better. Individuals may, of course, be found capable of any amount of brutality for the sake of gain, but the shipwrecked mariner of to-day is morally certain that his life and remaining property are safe when he reaches the shore of any part of the United Kingdom, and that for every ruffian there will be twenty kindly and hospitable people ready to pity and to aid him. The same could not be said of the early part of this very century. It seems almost incredible, too horrible, to be possible, that in 1811 the remnant of a poor crew of a frigate wrecked on the Scotch coast were, after buffeting the breakers and struggling ashore for dear life, absolutely murdered on the beach for the sake of their wretched clothes, or, at all events, stripped and left to die. When morning dawned the beach was found strewn with naked corpses. The inhabitants of many fishing villages and seaside hamlets were open to similar imputations late in the last, and indeed early in the present, century. Whole communities have in bygone times—let us trust gone for ever—turned out at the tidings of a vessel in danger, solely with a view to plunder. A tolerably well-known yarn, in which, probably, implicit confidence should not be placed, tells us of a wreck which occurred near the village of St. Anthony, Cornwall, one Sunday morning. This being the case, and the parishioners assembling at the church, the clerk announced that "Measter would gee them a holladay," for purposes on which that excellent clergyman well knew they were intent. This is only one part of the story, for it is stated that as the members of the congregation were hurrying pell-mell from the church, they were stopped by the stentorian voice of the parson, who cried out, "Here! here! let's all start fair!" The fact is that the contents or material of a wreck scattered around a coast were, and, no doubt, are still in many places, looked upon as legitimate prey by fishermen and others who would scorn anything in the form of treachery, in luring the good ship ashore, or in brutal treatment to the survivors of her crew. "Within the past five-and-twenty years," said a leader-writer a short time since, "it is said that a candidate for Parliamentary honours, while canvassing in a district near the coast, found that his opinion on the subject of wrecking was made a crucial point. Wrecking, indeed—so far as the appropriation of shipwrecked property is implied in the word—seems to have held very much the same position in popular ethics as smuggling has done. 'Such was the feeling of the wreckers,' writes one who was at one time Commissioner of the Liverpool Police, 'that if a man saw a bale of goods or a barrel floating in the water, he would run almost any risk of his life to touch that article, as a sort of warrant for calling it his own. It is considered such fair game, that if he could touch it he called out to those about him, "That is mine!" and it would be marked as his, and the others would consider he had a claim to it, and would render him assistance.'" We are told that the natives of Sleswig-Holstein considered wrecking so legitimate that prayers were offered up in their churches at one time that "their coasts might be blessed." Pastor and flock looked upon wrecks as much of blessings as they did a good fishing season. The parson, however, it was explained, did not really pray for wrecks. Certainly not! What he meant was that if there *must* be wrecks, those wrecks might happen on their coasts!

The question of "salvage" is of a nature too technical for these columns. In some minor matters it would seem that the authorities do not offer proper encouragement to fishermen and others to be decently honest or humane. At the period of the wreck of the *Schiller*, on the Scilly Islands, a correspondent of our leading journal* tells us "that many floating bodies of drowned passengers and seamen were picked up by the fishing boats which abound in that part of Cornwall. Upon some of them money or valuables were found, and these were given up to the Customs when the body was sent ashore. In such cases the valuables were retained for the friends of the drowned



RONAYNE'S BRAVERY.

persons, and a uniform reward of five shillings was paid to the finders. Now, for the sake of taking ashore such a body as I have described, the fishermen—seven or eight in number—would have lost their night's fishing, for it would not have been safe, even if the crew were willing, to have done otherwise. The smallness of the reward given in return for the services rendered would therefore operate as a strong inducement to the more selfish among them to prefer their fishing to the dictates of humanity. My informants even told a story of a fishing boat which picked up a floating body, and, having collected all the papers and valuables from it, restored the body itself to the deep, and went on its way. The papers and valuables were given up in due course, and no charge of dishonesty was preferred against the crew; but the want of humanity caused (and not unnaturally) a strong feeling of indignation against the perpetrators of this act. The fishermen, however, argued that if they brought the bodies into port (as they were

* *The Times*, January 6th, 1876.

instructed to do), they would get, at most, a sum of sevenpence per man for their night's work; and if they brought merely the property to the proper authorities, they were abused for their inhumanity; and that, therefore, their only alternative was to pass the bodies by, and attend to their own work. Should the view that I have here stated be found to be a general one, I think that it will be allowed that it is an argument for either paying more highly for the finding of bodies at sea, or allowing the finders the same salvage upon the property found upon the bodies that they would have received had the property been picked up in a chest."

Pleasant it is to turn from what we may well believe is only an occasional example of want of feeling to such a case as the following—one out of thousands that might be cited. It is slightly abridged from a little publication * which should be in the hands of all readers of "The Sea" interested in benevolent efforts for the seaman's welfare.

Some twelve miles westward from Tramore—a favourite watering-place and summer resort for the citizens of Waterford, and nearly half a mile from the coast—a farm is situated which has been long occupied by John Ronayne, a hardy and typical Irish farmer. The farm-house has few of the necessaries and none of the luxuries of civilised life, it is a true type of the poor class of farm-houses in many parts of Ireland, consisting of but two rooms—one the sleeping apartment, where Ronayne's family of twelve children have been born, and the other the living-room, where it is to be suspected sundry four-footed friends occasionally find their way, and bask or grunt before the fire. Rather less than half a mile from the farm is the rugged shore, approached by a rough "boreen," or narrow lane, emerging on the cliff near the course of a stream, which is a roaring foaming torrent in winter and spring-time. On winter days and nights, brown and turbulent, this stream rushes foaming into the ocean over crags and rocks and pebbly shore; but before it joins its fresh water with the salt sea foam, it plunges into a crevice, narrow and deep and deadly. Every coastman along the rock-bound shore knows this deep, treacherous hole, and warns the traveller to beware of it—for, once in it, there is no return. But this source of peril is little enough to that which is beyond.

A hundred yards or so from the cove into which this impetuous torrent pours frown two massive ridges of rock, offering to any venturesome ships attempting to run between their threatening sides destruction on either hand, while only some dozen yards of foaming breakers separate the one from the other. Skilful must be the steersman, and bold the skipper, who would dare the narrow channel, even though the only one by which they might hope to beach their sinking ship. And yet, on one fearful night in January, 1875, a large vessel, the *Gwenissa*, bound from Falmouth to Glasgow, and new but a few weeks before, successfully accomplished the dangerous passage. Not that any skill was shown, for none on the doomed ship knew of their proximity to rocks or shore, but, driving blindly on before the full fury of the gale, by chance were brought safely through. But in another instant the ship struck the rocky shore, and in a moment was shattered to pieces, timbers and tackle, cargo and living freight, being thrown, scattered and helpless, into the angry surf. Escaping, as by a miracle, the rocky dangers of Charybdis, the good ship *Gwenissa* had been hurled upon Scylla, and her doom sealed.

* *The Shipwrecked Mariner*. A Quarterly Maritime Journal. Vol. XXII. 1875. (Organ of the "Shipwrecked Mariner's Society.") The article is from the pen of Lindon Saunders, Esq.

The family at Killeton Farm little suspected, as they went to their humble beds, the tragedy which was being enacted on the shore; and even when some of the boys thought they heard cries of distress, little wonder—when the wind was blowing in great fitful gusts, sweeping round the homely cottage, shaking windows and doors, and moaning down the chimneys—that, after listening a while and hearing nothing further, they thought no more of the cries, and went to bed. Ronayne had, however, not been long in bed when a loud knocking awoke him, and he jumped up, and on opening the door was accosted by three men in sailor's garb.

The first surprise over, the instincts of hospitality asserted themselves, and he heaped up the turf fire, and, as they warmed themselves, learned that they alone of the crew of the *Gwenissa*, nine in number, were certainly saved. But there was a possibility that one or two might yet survive; and though the wintry blast roared loud without, Ronayne lingered not a moment. Hurrying on his clothes, and taking a large sod of flaming turf by way of lantern, he rushed down the "boreen," and soon reached the cove. Cautiously he made his way, and approached the edge of the stream, whence he now heard the shouts of several men. He followed up the cries of distress, and soon came upon a man in a most dangerous position.

Ronayne blew the turf until it glowed brightly, and, holding it down, saw a man waist-deep in the water, but so jammed between the crags that it was impossible for him to move, far less climb the overhanging rocks. He was bruised, stunned, and nearly insensible. Ronayne saw at a glance that the only way to help him was himself to go down, extricate his bruised legs from the rocks and wreck that held him like a vice, and then assist him to climb from his perilous position. This, by means of much pulling and hauling, he at length accomplished, and ultimately had the satisfaction of leading the poor fellow to a place of safety, where, for a time, he left him, sorely bruised, faint, and well-nigh frozen, for the others, who had never ceased calling for assistance from the moment of his arrival. They were four in number, and, as far as could be judged through the increasing darkness, lay in the very gorge down which rushed the swollen stream; and so it proved, for one was hanging to a spar which had become fixed in the rocks, while another was grasping a projecting crag, by which he contrived to keep afloat. The others, more fortunate, had been thrown on a ledge, which left them in comparative safety, though they were waist-deep in water. But though secure upon this ledge, they were quite as helpless as their companions, for the beetling face of the rocks defied their utmost efforts to scale them unaided. Here Ronayne's knowledge stood him in good stead, and after much active assistance in the shape of climbing, swimming, pulling, and scrambling, he succeeded in rescuing one after the other, each assisting afterwards to make the task easier. Five men stood beside him, cold and hurt, but saved by his perseverance and bravery from a watery grave.

"But," says the narrator—and here especially he should tell his own tale—"not without great labour had this been effected, for one of the men had his leg broken, and all were more or less bruised, and perishing of cold and exposure. Three men were at his house and five here; but where was the other? for nine men were on board the luckless vessel, and here were but eight. Leaving the rescued men in the

lane, Ronayne ran again to the cove, and the dim spark expiring in the turf showed him where he had left it. He scraped off the ash, and, the wind fanning it, again it burned up brightly—too brightly, for now it burned down to his frozen fingers; but he only grasped it the tighter, for did it not light him on his errand of mercy? and if another life might be saved at the expense of a few burns, would it not be great gain? So on sped he along the shore, searching into every cranny and cleft and crevice lighted by the turf, and, burning and shouting between his labours, at length was rewarded by a faint cry

THE "NORTHFLEET."

as of a man in distress—more a moan than a cry, and at a distance. Rapidly but carefully he had scanned the beach, and partially searched every gully and cleft, and now and again receiving to his cries a faint response, but always from far away. No doubt the man was out on the rocks, to which he had been carried by a receding wave after the ship struck, and Ronayne knew that some further help must be procured before he could be reached. So he hastened back to the five men he had left in the lane. They then all proceeded to the farm-house—a melancholy *cortége*—carrying as best they could the helpless between them. He then started off, wet and weary as he was, to the coastguard station at Bonmahon, where he gave information of the wreck, and demanded assistance for the poor fellow out on the rocks." The coastguard men lost no time in turning out with the rocket apparatus; but just as they were fixing it in position, Ronayne, who had been

hunting about, came upon the very last and ninth man of the crew, lying, half in the water and half out, upon the beach among a quantity of wreck. His supposition had been correct in regard to his position on the rocks, but while assistance was being procured he had been washed ashore, with shattered limbs—bruised, helpless, unconscious, but *alive!* The poor fellow, who remained unconscious, was carried to the farm, where some old whisky-jars were filled with hot water and placed to his feet. The little whisky in the house was divided among the benumbed men, and more solid provision set before them.

And now Ronayne's house contained over twenty inmates, most of them standing round the turf fire wringing the water from their clothes and warming their frozen limbs; the few beds, too, had their occupants. For Ronayne the work had but barely commenced. Saddling his young mare, he started to lay information of the wreck before Lloyd's Deputy Receiver at Tramore, some *twelve miles* distant, for eight shillings were to be earned, and for this trifling reward he was prepared to ride some twenty-four miles on a cold winter night.

On his road he passed the doctor's house, and sent him to attend the injured men, arriving at Tramore a few minutes before the telegram from the coastguard station. Two of the sailors were afterwards removed to the hospital, and recovered, and they and the remainder cared for by the Shipwrecked Mariners' Society's agents. Ronayne was indemnified for any expense he had incurred by the same Society, and the Life-boat Institution shortly after rewarded him.

CHAPTER XX.

Ships that "Pass by on the other Side."

Captains and Owners—Reasons for apparent Inhumanity—A Case in Point—The Wreck of the *Northfleet*—Run down by the *Murillo*—A Noble Captain—The Vessel Lost, with a Hundred Ships near her—One within Three Hundred Yards—Official Inquiry—Loss of the *Schiller*—Two Hundred Drowned in one heavy Sea—Life-saving Apparatus of little use—Lessons of the Disaster—Wreck of the *Deutschland*—Harwich blamed unjustly—The good Tug-boat *Liverpool* and her Work—Necessity of proper Communication with Light-houses and Light-ships—The new Signal Code and old Semaphores.

From time to time there appear in the public journals accounts given by sailors who have been saved from imminent peril from drowning by passing ships. Many and many an honourable case could be cited; but there are, alas! ships that "pass by on the other side." An article in the journal* issued quarterly by that grand society the National Life-boat Institution explains some of the reasons for this sad state of affairs. The writer generally denies that the majority of the masters of ships who would pass another vessel in distress are brutal or callous, and thinks that were many of them brought face to face with an isolated case of probable drowning, they would not hesitate to expose their own lives to preserve the one endangered. There must be some strong causes operating on the minds of the men who act in the inhuman manner indicated. Among them are the following:—

"1st. That the loss of time which the most trifling service of this kind causes would

* *The Life-boat: a Journal of the Life-boat Institution.* November 2nd, 1874.

possibly represent a very considerable money loss to the owners, by the delay in the arrival in port of the ship and cargo.

"2nd. That the cost of maintenance of the persons saved is insufficiently repaid by the Government.

"3rd. That in all but the largest kind of ships the amount of food and water habitually kept on board is rarely sufficient to meet the strain of, say double, or, it may be quadruple, the number of men they were intended for; and if a ship of the smaller class, towards the end of her voyage, has to take on board the crew of a vessel greater in number than her own, she is, from shortness of provisions and water, in nine cases out of ten, compelled to make for the nearest port, which may be a cause of incalculable loss, unless it chances to be the one she is bound for.

"4th. Every captain knows that all owners are more or less inimical to their ships rendering either salvage service or life-saving service. Not, as we suppose, that any owner deliberately sets to himself the axiom that no ship of his shall save life, but that they, not unnaturally, view with suspicion salvage service, because they can receive nothing from it but loss in time and money; and cases are not infrequent in which pretence of saving life is made a source of real loss to the owners."

One case among the many which could be presented is here given. It appeared before the magistrates of Falmouth in 1873, in consequence of the refusal of a crew to proceed to sea. The ship had come from a Chinese port to *a port in Europe:* it being uncertain, from the fluctuating state of the market, which it would be. The vessel fell in with a distressed ship, from which she took seventeen persons. When in the entrance to the English Channel, the captain found himself short of provisions and water, and put into Falmouth, to land the shipwrecked crew and replenish his provisions. His own crew thereupon claimed their discharge, as having arrived "*at a port in Europe.*" The Bench ruled the men's claim to be just, and it took the captain a fortnight to obtain a fresh crew, to whom higher wages had to be paid. "The actual and immediate loss to the owners, by this act of humanity of their captain, was stated at £270. The only reimbursement was the usual State grant for feeding so many men so many days, amounting altogether to £16 and a few shillings." The delay in delivering cargo entailed a heavy loss, and having put into a port not named, she had, it was said, vitiated her policy. How might the owners feel towards that captain in future? And again, how might he feel next time, when duty called him one way and interest the other? In an indirect way, this and foreign Governments recognise humane services of the kind indicated by presents of telescopes or binocular glasses. Such recognition is undoubtedly valued by the sort of men who would do their duty under any adverse circumstances, and whether they were to be thanked or no; but it is to be feared that captains who were as unfortunate as the one at Falmouth might think twice before they performed that which their consciences could only approve as right.

The owner of the relieving vessel should have the right of being recouped to the full extent of the loss incurred by delay and service—though many would never accept it; and a ship's insurance should never be vitiated by its calling at a port on a matter of any such necessity as landing a shipwrecked crew or obtaining provisions. It is certain

that we should do all that is possible to reduce that annual list of ships whose only record is "Not since heard of."

A successful mail-steamer passage or quick run, the first clipper from China with the season's tea, make not only a certain stir in a pretty wide circle, but represent a considerable increase of actual wealth. The despairing cry of those few poor seamen—who, in their sinking craft, or who, perishing from hunger or thirst, see fading away on the distant horizon the white royals of some lofty ship which they had watched with such agonising alternation of hope and despair—is heard by God alone.

The wreck of the *Northfleet*, and loss of life to over 300 souls, on January 22nd, 1873, will illustrate some of the above remarks.* The *Northfleet* was a fine old ship of 940 tons, built at Northfleet, near Gravesend, and so named. After various vicissitudes in the service of Dent's China and other lines, she had become the property of Messrs. John Patton and Co., of Liverpool and London, and was at the time of which we are about to speak chartered by the contractors of the Tasmanian Line Railway to convey 350 labourers and a few women and children to Hobart Town. The vessel left the East India Docks on Friday, the 17th December, 1872, with a living freight of about 400 persons. The cargo consisted principally of railway material. At the very last moment of leaving the docks, her commander for the previous five years, Captain Oates, was subpœnaed by a Treasury warrant to attend the Tichborne trial, and the command was given to his chief officer, Mr. Knowles. He was allowed to take on board the lady to whom he had been married about a month.

After leaving Gravesend the *Northfleet* encountered very stormy weather, and Captain Knowles felt it prudent to anchor under the North Foreland, where the vessel remained until the following Tuesday, when, the weather having moderated, she sailed down Channel, and was reported at Lloyd's as having passed Deal, "All well" being the signal. On the Wednesday, at sunset, she came to an anchor off Dungeness, about two miles from shore, in eleven fathoms of water. She was then almost opposite the coastguard station. About ten o'clock the ship was taut and comfortable for the night; almost all the passengers had turned in, and none but the usual officers and men of the watch were on deck. Just as the bells were striking the half-hour past ten the watch observed a large steamer, outward-bound, coming directly towards them. She appeared to be going at full speed, and the shouts of the men on watch who called upon her to alter her course roused Captain Knowles, who was on the after deck. But in another moment the steamer came on to the *Northfleet*, striking her broadside almost amidships, making a breach in her timbers beneath the water-line, and crushing the massive timbers traversing the main deck.

"'Midst the thick darkness, Death,
The dread, inexorable monarch, stalked;
And, lo! his icy breath
Encircled the devoted barque, where talked,
Or laughed, or watched, or slept,
The doomed three hundred of her living freight,

* The following account is based mainly on the reports published in the *Times*.

Unconscious that there crept
Through the still air the stealthy steps of Fate.

* * * * * * * * * * *

"Oh God, that fearful crash!
The stout ship reels, her planks disrupted wide;
Fast through the yawning gash
The green sea pours its dark, resistless tide.
What followed then, O heart,
Thou scarce may'st realise! 'Tis well for thee:
Ne'er would that sight depart
From gentle mind that had been there to see.

"For maddening terror reigned;
Honour, and manhood, and calm reason fled,
And brutal instincts gained
The mastery; and even shame was dead.
Each one, to save his life
Would give to death the lives of all beside;
Nor cared in that fell strife
What awful end his fellows might betide.*

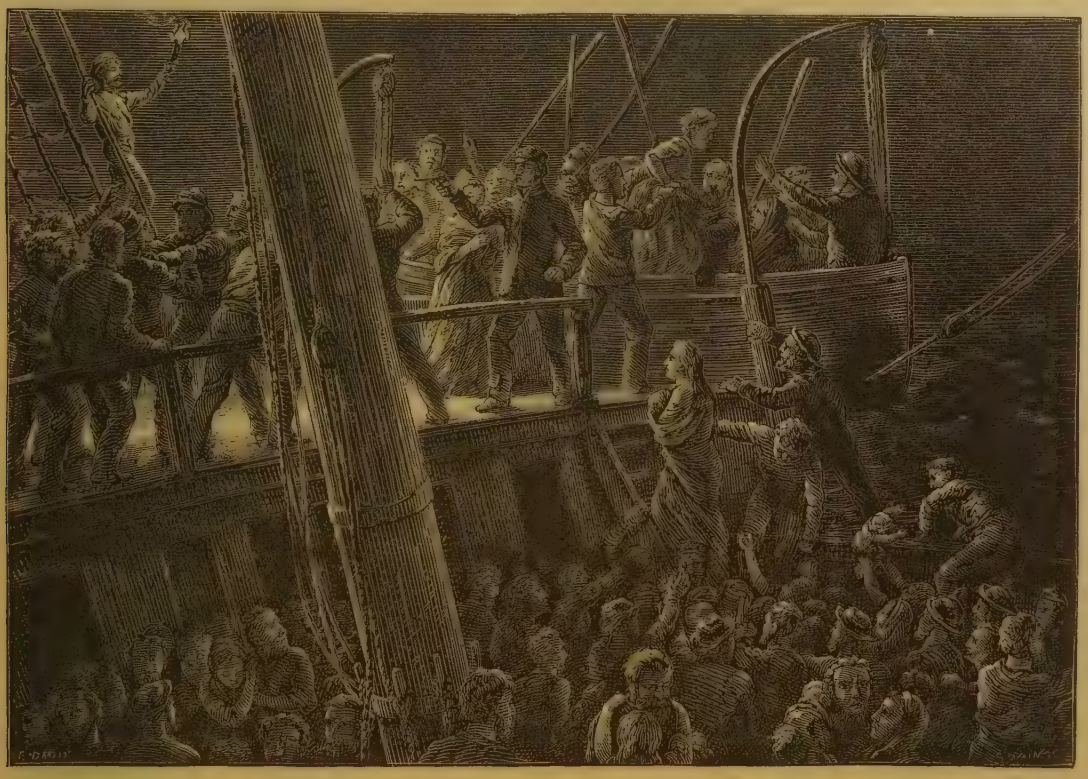
"Yet 'mid that wild despair
Nobility of soul found room to stand,
And lustre bright and rare
Enfolds the memory of Knowles and Brand;
Who, face to face with death,
Save of dishonour, showed no coward dread,
Brave hearts to the last breath,
They joined the galaxy of Britain's dead."

The shock was described by the survivors as like the concussion of a very powerful cannon. The reader will here make his own reflections. Immediately after the collision the steamer cleared the ship, and before many of the terrified people below could reach the deck she was out of sight. Most of the passengers were awakened by the shock, and a fearful panic ensued. Captain Knowles acted with singular calmness, promptitude, and decision. He caused rockets to be sent up, bells to be rung, and other signals of distress; but the gun to be fired would not go off, the touch-hole being clogged. Meantime he directed the boats to be launched, giving orders that the safety of the women and children should be first secured. There was a disposition to set these orders at defiance, and, on some of the crew crowding to the davits, with a view of effecting their own safety, Captain Knowles drew a revolver, and declared he would shoot the first man who attempted to save himself in the boats before the women were cared for. Most of the crew seemed to understand that the captain was not to be trifled with; but one man, Thomas Biddle, refused to obey the

* A part of the crew behaved in a most cowardly manner, and thought only of saving themselves, although Captain Knowles and Mr. Brand, the chief officer, who stood nobly by their posts, did all in their power to shame these recreants, and themselves went down with the ship. The lines quoted above were written by a graduate of Pembroke College, Cambridge, whose promising career was cut short by death at an early age. The poem, described as "A Fragment," is given in full in *The Lifeboat* for February 1st, 1878.

order, and the captain fired at him in a boat alongside the ship. The bullet entered the man's leg just above the knee.

Meantime the pumps were set to work, but with little or no effect, the water pouring in through the opening in the ship's side. The scene on deck was frightful. Many of the passengers were in their night-dresses; others had only such scanty clothing as they could secure on quitting their berths. Children were screaming for their parents, and parents searching in vain for their children; husbands and wives were hopelessly separated.



WRECK OF THE "NORTHFLEET."

The horror was increased by the darkness of night. The captain's wife was placed with other women in the long-boat, under the charge of the boatswain; but the tackle being too suddenly set adrift, the boat was stove in.

By this time the *City of London* steam-tug, having perceived the signals of distress, reached the spot, and succeeded in rescuing nearly the whole of the occupants of the boat, as well as several others of the passengers and crew, to the number of thirty-four. She remained cruising about the spot till early next morning, picking up such of the passengers as could get clear of the wreck, and in the last hope, which proved vain, of rendering assistance to those who might have floated on fragments of the ship after she settled down. The Kingsdown lugger *Mary* was likewise attracted by the signals of distress, and succeeded in rescuing thirty passengers. The London pilot-cutter No. 3, and the *Princess*, stationed at

Dover, also got to the spot, and succeeded in rescuing twenty-one, ten of them from the rigging. The total number thus rescued was eighty-five persons.

The ship went down about three-quarters of an hour after she was struck, the captain remaining at his post till she sank. One of the survivors states that he was standing close to the captain when she went down. The former managed to lay hold of some floating plank, and was borne to the surface. The captain, however, was not again seen. The pilot and ten others had taken to the mizen-mast, from which they were rescued. The whole of the officers perished.

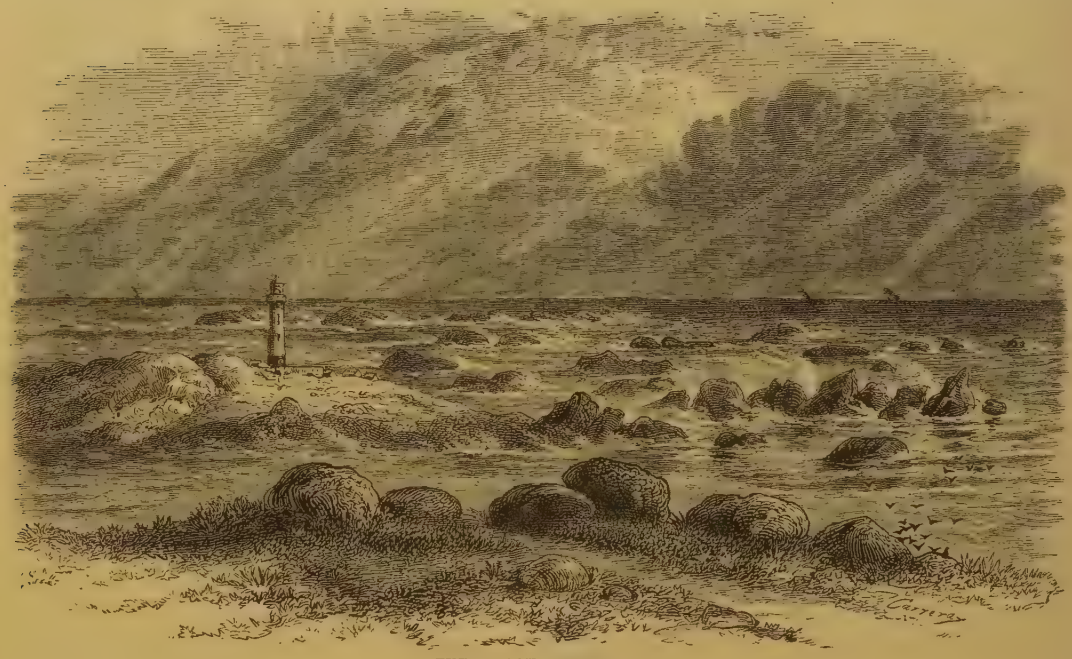
It must seem remarkable that while the *Northfleet* showed lights and other signals of distress within two miles of shore during twenty minutes or half an hour no notice was taken of them. When a ship is in difficulties in the night, it is usual for her either to fire guns or to exhibit a flare of light. But here, even the vessels close at hand thought that the ship was only signalling for a pilot; and at the time there were nearly a hundred vessels at anchor in the roadstead, with their lights burning brilliantly. Those on board the three ships nearest the wreck would have instantly sent help had they imagined there was a vessel in distress, and they could have got to the ship in a few minutes, for, though the night was dark and squally, it was clear at intervals, and any boat could live, the sea not being rough. It appears that the *Corona*, an Australian clipper, was lying at anchor within 300 yards of the *Northfleet* when the disaster occurred, but neither the terrible shock of the collision, the subsequent cries for aid, nor the rockets continuously fired from the deck of the sinking ship, could arouse the man who was the only watch on deck to call up either his comrades or the officers of his ship. Various reports were at first current as to the name of the vessel which ran the *Northfleet* down, and which passed straight on her way, without taking any heed of the disaster she had caused, though it must have been clearly known on board of her, if not—it is to be hoped—to the full extent of the calamity. Suspicion attached to the *Murillo*, a Spanish steamer, bound for Lisbon from Antwerp. The *Murillo* arrived at Cadiz on the evening of Thursday, the 30th, having stopped at Belem, the entrance to the port of Lisbon, on the day before, and having then been warned by a telegram to go on to Cadiz without landing her Lisbon cargo. Upon her arrival at Cadiz an official inquiry was commenced, at the instance of the British Consul. From the report of Mr. Macpherson, Lloyd's agent at Cadiz, it appeared that her starboard bow had been newly painted black and red to the water line, and her port bow showed marks of a slight indentation near the anchor davit. It was stated, however, on behalf of her owners, that the painting was done in London or Antwerp, before she started on her present journey, and that the indentation had been made on entering the port of Havre two years before. An inquiry was instituted in the Spanish Courts, and the committee appointed for that purpose declared that the *Murillo* was not the vessel which ran down the *Northfleet*. The *Murillo* was therefore released. But some time afterwards justice was avenged.

The official report of the inquiry made—at the instigation of the English Government—by Mr. Daniel Maude, stipendiary magistrate, assisted by Captains Harris and Hight acting as assessors, stated that there was no doubt that the ship which came into collision with the *Northfleet* was the Spanish iron screw-steamer *Murillo*, trading between London

and Cadiz, which left London on the 12th of January, proceeded to Antwerp, and, after leaving that port, arrived off Dungeness on the night of January 22nd. The *Northfleet* was anchored in an apparently most safe position, a mile and a half or more inside the usual fair course for vessels outward-bound. The *Murillo* came down inside the *Northfleet*, and struck her nearly amidships. It would appear, both from observation on board the *Northfleet* and also from the evidence given by the chief engineer of the *Murillo*, that the latter had slackened her speed some little time before the collision, or probably both ships would have sunk. There is no doubt the shock was a slight one; but the sharp stem of the iron steamer having struck the weakest part of the wooden ship will account for the mischief done. The master of the *Murillo*, in his log, stated that the reason for not laying by to inquire as to the injury sustained by the shock was that a boat had immediately left the ship and examined the damage, and that the boat and crew having returned again, he concluded nothing of moment had happened. The Court was satisfied that no such incident had occurred, nor was it mentioned by the witnesses who had previously been examined by the Court. The survivors of the collision were unanimously of opinion that if the *Murillo* had lain by, the whole of the *Northfleet* people could have been saved. They thoroughly believed that the *Murillo* steamed away, and left them to perish, in defiance of their signals, rockets, blue lights, and the shouts and screams of the whole ship's company, which must have been noticed. On the other hand, it appears that Captain Knowles did not apprehend immediately the damage his ship had suffered, and that no rockets were fired for a quarter of an hour after the collision. During this time the *Murillo* was steaming away at half-speed, and was probably two miles off. Upon this evidence the Court felt they ought not to impute to the captain of the *Murillo* the full apparent brutality of his offence in not staying by the injured ship. The Court added a strong expression of opinion that no master of a ship should be allowed to take his wife to sea with him.

On Friday, the 7th of May, 1875, one of those sad events occurred which show the imperfection of many of the most carefully-devised schemes for life-saving at sea. Although it occurred in British waters, neither the ship nor the larger part of the passengers were British subjects. The *Schiller* was a fine iron steamship of 3,600 tons, belonging to the Eagle line of Hamburg; she was nearly a new vessel, having been built at Glasgow in 1873. She left New York on the 27th of April, having on board at the time 264 passengers, while the officers and crew numbered 120 souls. All went well till the 7th of May, on which day she was due at Plymouth, when, in the afternoon, a fog set in; nevertheless, the vessel was kept at full speed until 8.30 p.m., when the density of the fog having greatly increased, she was put at half-speed, and an hour after she struck on the Retarrier Rocks, off the Scilly Islands, and within two-thirds of a mile of the lighthouse on the Bishop's Rock. Although going at slow speed at the time, and although the engines were immediately reversed, the unyielding rocks had done their work: the ship was immovable, and immediately filled. All was at once confusion, and a panic ensued, cries of terror rising from every lip. Orders were given by the captain to lower the boats, and until he was himself washed off the bridge, at about 4 a.m., and drowned, he did his best to preserve some order, even threatening the frantic crowd with his pistol.

All the boats, however, except two, were swept away by the sea before they could be lowered, many perishing with them, and one was crushed by the funnel falling on it. The ship held together for several hours, and had there been any means of making their hopeless condition known at St. Mary's, the chief of the Scilly Islands, a steamer, and a first-class lifeboat* belonging to the National Lifeboat Institution, might have arrived in time to save a large number of lives. Such, however, was not to be, and when the morning dawned all that remained of the crew and passengers who, a few hours before, had been looking forward to happy meetings in the Fatherland with fathers, mother, sisters, brothers,



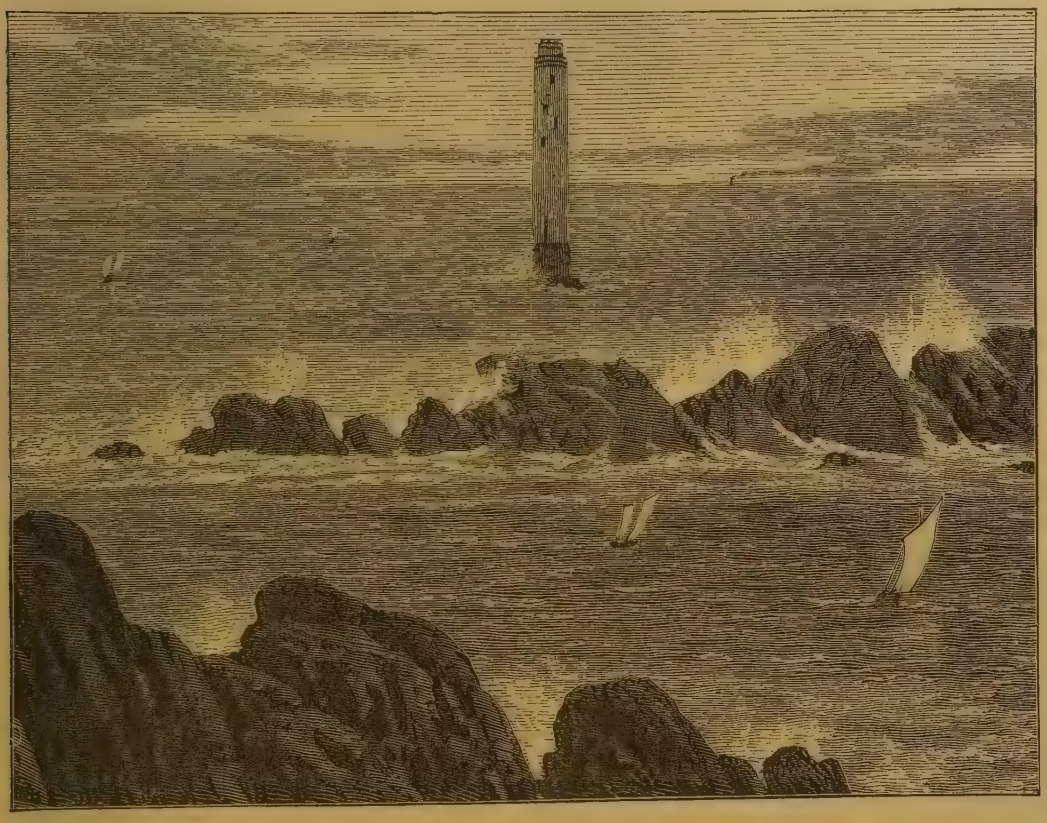
THE SCILLY ISLANDS.

and friends at home, were those who had succeeded in mounting the rigging of the fore and main masts, and a few others in the half-swamped boat, the only one which had been safely lowered. The women and children who had crowded the deck-houses and saloon, and the male passengers and those of the crew who were on the upper deck or the bridge, had perished. Alarm-guns were fired and signal lights thrown up continually, until the seas breaking over the ship prevented such efforts attracting attention; and some of the former were heard on the islands, but as steamers from America had been in the habit of firing guns to mark their arrival off the islands, they were not supposed to be danger signals. It is said, however, that at St. Agnes, the nearest island to the wreck, the guns were believed to be from a vessel in distress, but the fog was so thick that boats were afraid to venture out.

The mainmast fell at about seven o'clock in the morning, and the foremast an hour

* Vide *The Life-boat; or, Journal of the National Life-boat Institution.* August 2, 1875.

later, when most of those who remained in their rigging were lost. Just before the foremast had fallen, four boats from the shore arrived, and picked up several persons from the water, but finding the sea too heavy to allow them to go alongside the ship, one of them went to St. Mary's, to convey intelligence of the disaster and to procure the aid of the steam-tug and lifeboat. As soon as possible the latter arrived in tow of the steamer, but all, alas! was then over, and they only picked up twenty-three bags of mail matter and a few bodies. Out of 384 souls only 53 were saved.



THE BISHOP ROCK LIGHTHOUSE.

It was about ten o'clock in the evening when the ship struck. A little festive party had been given in honour of the birthday of one of the officers, but there is no evidence to show that the working of the ship was thereby neglected. The majority of the passengers were on deck, on the look-out for land, which they knew was near. Nearly all the women and children and a few men were in their berths; others were sitting about, talking, smoking, playing cards or dominoes, and thinking little of the fate which was so soon to befall them. There was not the slightest premonition of the disaster, and the shock appears to have been so slight that few were at first aware that the ship had struck on a rock. But in a few minutes the sea which ran over her forced her on her broadside, where she lay constantly

washed over by the breakers. Let the reader imagine, if he can, the sudden change from the gaiety and hopefulness on board, the anticipations of soon reaching shore and home, to that scene of wild terror and dismay!

About midnight the funnel fell overboard and smashed two of the starboard boats. Soon after the fog cleared away, and a gleam of hope arose when the bright clear light of the Bishop Rock Lighthouse shone out. But it was only momentary, and dense darkness soon surrounded them. When the deck-house was swept away by a sea so heavy that it ran up to the top of the mainmast, a heartrending cry, mingled with shrieks and groans, rent the air. Nearly two hundred perished by this one catastrophe. Then the captain gathered for safety some people on the bridgeway, the highest place, in the vain hope of saving them. Every one, including the captain, engineers, and doctor, were swept off. The riggings of both masts were now crowded with people. With every lurch the steamer careened over to the starboard side until the yards touched the water, and the cargo began to float about on all sides. Bales of wool and cotton, feathers, trunks, boxes, and woodwork of all kinds, strewed the waves.

A survivor—one of seven who left the ship in a boat and was afterwards instrumental in picking up others—said that they cruised about the greater part of the night near the vessel, and that the screaming all the time was heartrending, and lasted almost from the commencement of the disaster to four o'clock in the morning, when it ceased. Alas! by that time nearly all had gone to their long account. The last screams he heard, and which he could never forget, were from a little child. Mingled with all was the cracking of the ship's timbers as wave after wave broke over her. One by one the lights disappeared, till, at three o'clock, not one was left but the masthead light.

A proportion of the bodies only were recovered, among them those of several ladies wearing valuable jewellery; one had £200 in money upon her, which she had endeavoured to save. That with 1,200 life-belts on board so few should have escaped seems nearly incredible; but the panic and other circumstances help to account for the sad fact. The second mate stated that he had much trouble in getting the passengers to understand the importance of wearing them well under the armpits, and that if the belt got below the waist it would at once force the head under water. From the position of some of the corpses recovered, it is evident that many must have perished in this manner. In a number of cases the lower strings of the life-belts had broken. The larger part of the dead were buried on the various islands of the Scilly group.*

The main features of this disaster teach some important lessons. "We find," says a writer in *The Lifeboat*, "in this instance, a noble ship, under full control of steam and sail; the captain† an able, experienced, and careful officer, whose devotion to his duty

* The Scilly Islands, thirty miles from the Land's End, are 140 in number, and range in extent from one to 1,600 acres, several of the larger being fully inhabited. They are flanked by the grandest rock scenery, and surrounded by reefs and rocks innumerable.

† Captain Thomas had, we were told on other authority, navigated the *Schiller* across the Atlantic and past the treacherous Scillies eight times. He imagined himself to be far from a point of danger; and old sea-captains assert that it is not uncommon for a vessel to be in advance of her commander's calculations—in other words, she may plough through the water faster than he is aware. In this case the sun had been absent for three days, and the course had been kept by dead reckoning.

and sense of the responsibility thrown on him were shown by the fact of his not having had his clothes off for five nights previous to the loss of his ship; and the weather fine, with the exception of the prevalence of a dense fog.

"If we further inquire whether the owners of the ship had done their duty in providing their passengers with all available means of safety, we find that she had an ample and competent crew, had eight boats, six of them being life-boats, and that life-belts more than sufficient for every one on board were provided, and were to a large extent used, since all, or nearly all, the bodies that were picked up had life-belts on them. The latter may, however, have been of inferior quality—indeed, are said to have been so. With so many elements of safety, what then caused them to be of no avail?

"The immediate causes of the loss of the ship were apparently the dense fog and an insufficient allowance for the set of the well-known current which sets out of the Bay of Biscay to the northward, across the entrance of the British Channel, which has sometimes considerable strength.

"A secondary cause was the old offence, so general in the merchant service, despite all the warnings of experience—neglect of sounding, the lead not having been used during the day or night, nor on the two previous days.

"Lastly, the chief cause of so few lives being saved, there can be little doubt, was the same as that which led to such fearful results in the case of the *Northfleet*, viz., the custom of making use of night signals of distress for other objects, such as to call for pilots, to signify arrival, &c., a folly admonished in advance in the old fable of the boy raising the alarm of 'Wolf, wolf!' when there was no wolf, and then receiving no succour from his neighbours when the wolf came.

"It appears to be customary for the German steamers to make the Scilly Islands to enable their agents there to telegraph to Plymouth the approach of their steamers, in order that the necessary preparations should be made for a prompt disembarkation of their passengers for England on their arrival at that port.

"The saving of time, which, looking to the great daily expense of such vessels, with their hundreds of mouths to be fed, and their immense consumption of coal, is the saving of money to the shareholders, and is, of course, the motive for communicating by signal with Scilly, just as the maintenance of high speed in all weathers, and by night as by day at all hazards, is so, and which leads to so many disasters.

"All that we would suggest, in the interest of humanity, is that such communication should be left discretionary with the captain of every ship in the case of fogs, when it should be optional for him to proceed directly for Plymouth, or to heave to, or to feel his way at greatly diminished speed by frequent sounding, which would be a certain guide to him for a distance of many miles round the islands." The writer suggests that, in view of the too common neglect of sounding, such neglect, when discovered, should be punishable by heavy penalties. It was proved in evidence that the Eagle line of steamers were expressly prohibited from firing guns, or exhibiting other distress signals, to make themselves known, but that other German steamers had done so, of which those on board this unfortunate ship now reaped the evil consequences.

On the morning of the 6th December, 1875, one of those sad disasters occurred which

WRECK OF THE "DEUTSCHLAND."

ever and again remind us of the dangerous nature of our shores. But a few months before the *Schiller* had been wrecked, with the loss of 331 lives, and now an emigrant steamship, of the same nationality, was to share the same terrible fate off the Essex coast. Happily, the loss was not so serious, and led to the establishment of a life-boat station where one had not existed before.

Few maritime disasters of modern times have excited more general interest than the wreck of the *Deutschland*: partly from the fact that it occurred so near the mouth of the Thames, and partly because a part of the German press, in a strange and reckless manner, advanced serious charges against the town of Harwich and the boatmen of that port, accusing them of allowing the unfortunate emigrants to perish before their eyes, and refusing them succour. The circumstances are as follows:—In the first place, the spot where the *Deutschland* was wrecked—on the Kentish Knock—is twenty-four miles from Harwich, and, therefore, at too great a distance for the vessel herself, and far less for any signals of distress or national flag to be seen from that place, even in clear weather. "Accordingly, the only modes by which intelligence of the disaster could be conveyed to Harwich would have been by the different light-vessels repeating the signals from one to another, and finally to that town, or by some vessel or boat proceeding there. Now it so happened that all the hovelling smacks belonging to that and adjacent places had themselves been driven into port by the violence of the gale and the heavy sea, and that the only available means of communication was, therefore, by signals from the light-ships. It appears from the evidence of the officers in charge of those vessels at the Board of Trade inquiry, although the *Deutschland* had been on shore since five and six o'clock in the morning on Monday, the 6th of December, and had immediately commenced to throw up rockets, and continued to do so until daylight, none of them were seen even from the nearest light-ship—the Kentish Knock—no doubt, owing to the thickness of the weather and almost continuous snow-storms, the master of that vessel first perceiving the unfortunate steamer at 9.30 a.m. He then fired guns, sounded the fog-horn, and continued to do so at half-hour intervals during the day, and at 4.30 p.m. commenced to throw up rockets, which were answered by the steamer.

"At 5.20 the mate of the Sunk light-ship first saw two rockets, which he supposed to be from a vessel on the Long Sand, whereupon he fired guns and sent up rockets throughout the night, but did not see the wrecked ship until 7.30 on the morning of Tuesday, the 7th. His first rockets had, however, been seen by the look-out on board the Cork light-ship, from which vessel rockets were then immediately discharged; and at 7.30 these were replied to from Harwich, they having given the first intimation to the good people of that town that anything was amiss at sea; and even then not that a German emigrant steamer was ashore on the Kentish Knock, but merely that some vessel was in danger somewhere on one of the numerous sandbanks which lie in all directions off that port. We have thus accounted for the circumstance of these unfortunate shipwrecked persons being allowed to remain for fourteen hours in their perilous position without succour from the shore, from the simple cause that no one knew of their danger; and we have arrived at another stage of our inquiry: viz., Were the means then adopted all that could be reasonably expected from humane people, who would gladly afford succour, if in their power, to any one in distress, to whatever country they might belong?"

The writer of the critical article from which the above quotations are taken* shows, firstly, that there was not at that time a life-boat station at Harwich. It had always been considered that the sands were too distant from that port for the successful employment of such a boat, and that, in the event of wrecks upon them, the numerous hovelling smacks would have anticipated its services. There was, however, a small but serviceable steam-tug—not, be it remembered, Government or town property, but that of a private individual. It is right that this should be fully understood. The circumstance of this tug, the *Liverpool*, not going off instantly on perceiving the rockets thrown up by the Cork light-ship was much criticised by some ignorant persons at the time. "Fortunately, she was commanded by an able and experienced seaman, Captain Carrington, who knew what he was about; who knew the difficulties of navigating in the intricate passages between the numerous shoals off the port on a dark night and gale of wind, and he could only do so at great risk of losing his owner's vessel and the lives of those intrusted to him; that he might spend the whole night in vainly searching for the vessel in distress, and, even if he should find her, that, with the small tug's boats, it would be quite impossible for him to render any assistance to a vessel surrounded by broken water, in a dark night and heavy sea; and, moreover, that if any mishap should disable his own vessel, the only chance of saving the wrecked persons might be destroyed." He judiciously waited till shortly before daylight, and then proceeded, first, to the Cork light-ship, where he ascertained that the Sunk light-ship had been firing all night. He then steamed to the latter, and was misinformed (unintentionally) regarding the locality of the wreck. He, after searching in vain for some little time, steamed for the Kentish Knock, and when half-way to it saw the *Deutschland* on that sandbank. He then went to the Knock light-ship, and hailed her, inquiring whether those on board knew anything about the wreck, or whether there were any people remaining on board her, but could get no information. He soon proceeded to the spot, and, finding there were a large number of persons on board her, anchored his vessel under her lee, at about sixty fathoms' distance, and sent his boats to her. After taking off three boat-loads, he weighed his anchor, placed his vessel alongside the ship, and took off the remainder of the survivors—173 in all. In spite of the time which had elapsed and the great dangers to which the vessel had been exposed, the loss of life had not been so serious as might well have been anticipated. Fifty-seven poor men and women had, however, perished in the raging waves. The tug† had done her work of saving nobly and well, and had performed it at a time when the hovelling smacks could have done nothing at all. On the same occasion the Broadstairs life-boat proceeded as soon as possible to the scene of the wreck, twenty miles distant, but too late to be of service. In these days of nearly universal telegraphy,

* *The Lifeboat*, &c., February 1st, 1876.

† Shortly after the wreck of the *Deutschland*, the same tug-boat, the *Liverpool*, rescued from certain death the crew of another foreign ship, this time a Norwegian vessel, wrecked on the Ship-wash sandbank; and the Ramsgate life-boat, summoned by telegram from Harwich, was towed by the steam-tug *Aid* no less than forty-five miles to the scene of the disaster—only to find on arrival there that the shipwrecked crew had already been saved by the Harwich tug—and then another forty-five miles on her return. The fifteen poor fellows on board had then been fourteen hours sitting in their boat, with the seas and spray breaking over them through the whole of this terrible voyage in a freezing atmosphere. They landed in a benumbed and half-frozen state, from the effects of which some of them were sure to suffer severely afterwards.

it would seem strange that our light-ships on dangerous sands, and our lighthouses on dangerous rocks, are almost entirely without the means of proper communication with the nearest shores. From the light-ship, indeed, rockets and guns are constantly fired, as we have seen in many preceding examples, but fogs and heavy weather often prevent either from being of service. The expense of connecting *all* of them with the coasts by means of submarine cables might be sufficient to frighten any Government; but some such communication, however costly, should be made with many of those exposed and dangerous spots where shipwrecks are of constant occurrence.

Excellent authorities on maritime matters have strongly advocated the necessity for the establishment of a sound system of day and night signals from all outlying lighthouses, light-ships, and coastguard stations, and the laying of submarine cables to many of the more prominent stations. A formula of "signals of distress" was included in the new "Merchant Shipping Act of 1873," which came into operation on the 1st of November of that year. Prior to that time such signals were too vague and too indiscriminately used to have much value, and sometimes were calculated to mislead. Thus, in the case of the *Northfleet* already cited, 400 of those on board were drowned, "although she was surrounded by other ships, and the rockets which she discharged as signals of distress were seen by the coastguard and life-boat men ashore, but were unheeded, it being a common custom for homeward-bound ships to discharge rockets for pilots, or as *feux de joie* on their safe return from distant lands." The following signals of distress are now required. In *the daytime* the following signals, when used together or separately, shall be deemed sufficient and proper. 1. A gun fired at intervals of about a minute. 2. The International Code signal of distress. This is a square flag with chess-board pattern, blue and white, having beneath it a long triangular white pennant, with a red ball in the centre. 3. The distant signal, consisting of a square flag, having above or below it a ball or anything resembling a ball. *At night* the following signals:—1. A gun fired at intervals of about a minute. 2. Flames on the ship, as from a burning tar-barrel or oil-barrel, &c. 3. Rockets or shells, of any colour or description, fired, one at a time, at short intervals. And "any master of a vessel who uses or displays, or causes or permits any person under his authority to use or display, any of the said signals, except in the case of a vessel being in distress, shall be liable to pay compensation for any labour undertaken, risk incurred, or loss sustained, in consequence of such signal having been supposed to be a signal of distress, and such compensation may, without prejudice to any other remedy, be recovered in the same manner in which salvage is recoverable."

The signals for pilots are also definitely fixed as follows:—*By day*, the "Jack" or other national colour usually worn by merchant ships, having round it a white border, is to be displayed at the fore; *or* the International Code pilotage signal, this consists of two square flags, the upper of which is a blue flag with a white square in its centre, and the lower of which is a striped flag, red, white, and blue, similar to the French flag. *At night*, "blue lights," or bright white lights, are to be flashed at frequent intervals, just above the bulwarks. If these signals are used for any purpose other than that for which they are intended, a penalty, not exceeding twenty pounds, is incurred. Residents at, and visitors to, seaports and sea-side resorts will, from the above description, be able to

judge whether a vessel in the offing is in dire distress or simply requires the ordinary services of a pilot.

In the eighteenth century, the requirements of a maritime country constantly at war obliged the Government to establish a complete system of signals and signal stations all round our coasts. At the conclusion of our wars with France that system was in full force, and at that time the movements of nearly every vessel, friend or foe, were telegraphed from point to point with a facility which contributed in an important degree to the security of the country. "This Government telegraph system was also available for summoning such aids as then existed for the preservation of life from shipwreck. Accounts of wrecks at what may be called the life-boat era all tend to show that the system of coast telegraphy then in existence played an important part in most notable life-boat and other rescues from shipwreck. With the long peace the need for information on the part of the Government as to the movements of its own or other ships became less urgent, though the coast system of signals maintained a precarious existence for many years, to assist the coastguard in protecting the revenue. As smuggling decreased, the coastguard men were reduced in number, and the chain of signallers became broken into gaps, which widened year by year. The final blow was given by railways and electricity to the old line of semaphores stretching between Portsmouth and the Admiralty, and elsewhere, and from headland to headland. But while the Government, by the help of modern invention, enormously increased its facilities of communication with the great dockyards and arsenals, it, conceiving itself to be in no way concerned (we suppose) with the safety of merchant ships or saving life, failed to supply a substitute for the old semaphore system along the coast line; and year by year the evil has increased from the reduction of the coastguard, and the consequent lengthening of the interval on lines of coasts in which watch has ceased to be kept. The result is that during the last twenty-five years, and up to the present time, there has been greater difficulty in communicating along the coast and summoning aid to distressed vessels at all out-of-the-way parts of the coast than existed at the end of the last century.

"The First Lord of the Admiralty or the President of the Board of Trade can converse at leisure with Plymouth, Deal, Leith, or Liverpool, but the Eddystone has no means of letting the authorities at Plymouth know that a ship is slowly foundering before the eyes of the keepers, though the two points are in sight of each other. The light-keepers at the Bishop have no means of telling the people at St. Mary's that a ship full of passengers is slowly but surely tearing to pieces on the Retarrier reef; and the hundreds of vessels that yearly are in deadly peril on the Goodwins, the Kentish Knock, the Norfolk Sands, and elsewhere, have no means of summoning prompt aid from the land, though they are only a few miles distant from it."* The writer notes that the number of cases of shipwreck, where the vessels might have been saved, which reach the National Life-boat Institution is considerable. These come largely from obscure and detached parts of the coasts. A foreign barque was wrecked on the Ship-wash, a sandbank eight miles from land, the nearest port being Harwich, from which its southern end is distant ten miles. The wreck was discovered by several smacks soon after seven o'clock on the morning of January 7th, 1876, and the news of the disaster was in the possession of the coastguards at Walton,

* *The Lifeboat*, &c., Feb. 1st, 1876.

Harwich, and Aldborough, before ten o'clock that day. Yet the crew were not taken off the wreck till the following morning, after they had been more than twenty-four hours exposed to all the horrors of a pitiless easterly gale, and the momentary expectation of being swept into eternity. So ill-adapted was the system of sending information along the coast that the news did not reach Ramsgate till the next morning, and tug-boat and life-boat then started on a gallant but fruitless expedition, to find that they had only just been forestalled by the Harwich steamer. The Ramsgate men were thus needlessly exposed for fourteen hours in a storm, with the cold so intense that the salt water froze as it fell on the boat. "It is also significant," says a writer in *The Lifeboat*, "that the Aldborough life-boat's crew declined to launch their boat (they being fifteen miles from the wreck), mainly because there were no sure grounds for concluding that the crew were still on board it—information which could certainly have been conveyed by the Ship-wash lightship had it had an electric wire communication with the shore; or, failing that, by properly arranged 'distant signals' visible to the eye." The writer shows that had the information been telegraphed from the point which it actually did reach about 10 a.m., either to the Admiralty or the Board of Trade, or any other public department, assistance could with ease have been sent to the wreck, by orders from London, not the day after, but on the forenoon of the same day. And what might not have been the sad consequences of delay, had the vessel been carrying a lot of helpless passengers instead of nine hardy seamen?

A case occurred shortly after the above occurrence, illustrating the necessity for prompt and suitable communication with land. The steamer *Vesper*, of Hartlepool, was lost on the Kish Bank, four miles south of the Kish light-ship. The crew of this wreck, which struck the bank at 5 a.m., though only *four* miles from the light-ship, six of a coast-guard station on shore, and seven of another point, received no assistance, nor did the light-ship pass the intelligence till 10 a.m., when a boatman at Kingstown saw masts sticking out of the water on the Kish Bank, with signals of distress flying from them. Promptly enough then the life-boat, towed by H.M. steam-tender *Amelie*, proceeded to the wreck, only to find, however, that on the steamer sinking the crew had taken to their own boats, and being unburdened with passengers, had escaped to land. The weather was moderate; had there been a gale, the story might have been far different. What a reproach to our system! first, that the light-ship had no means of signalling for assistance; and, second, that it had no means afterwards of indicating that all hands were happily saved.

CHAPTER XXI.

A Contrast—The Ship on Fire!—Swamped at Sea.

The Loss of the *Amazon*—A Noble Vessel—Description of her Engine-rooms—Her Boats—Heating of the Machinery—The Ship on Fire—Communication Cut off—The Ominous Fire-bell—The Vessel put before the Wind—A Headlong Course—Impossibility of Launching the Boats—"Every Man for Himself!"—The Boats on Fire—Horrible Cases of Roasting—Boats Stove in and Upset—The Remnant of Survivors—"Passing by on the Other Side"—Loss of a distinguished Author—A Clergyman's Experiences—A Graphic Description—Without Food, Water, Oars, Helm, or Compass—Blowing-up of the *Amazon*—"A Sail!"—Saved on the Dutch Galliot—Back from the Dead—Review of the Catastrophe—A Contrast—Loss of the *London*—Anxiety to get Berths on her—The First Disaster—Terrible Weather—Swamped by the Seas—The Furnaces Drowned out—Efforts to Replace a Hatchway—Fourteen Feet of Water in the Hold—"Boys, you may say your Prayers!"—Scene in the Saloon—The Last Prayer Meeting—Worthy Draper—Incidents—Loss of an Eminent Tragedian—His Last Efforts—The Bottle Washed Ashore—Nineteen Saved out of Two Hundred and Sixty-three Souls on Board—Noble Captain Martin—The *London's* Last Plunge—The Survivors picked up by an Italian Barque.

No greater horror can occur at sea than for the good ship to be on fire. At first sight, indeed, it might appear that in the midst of an unbounded waste of waters nothing could be easier than to extinguish a conflagration on board a vessel, but examples already cited in this work have shown the difficulties in the way. Steam-ships have special facilities for pumping water into almost any part of their hulls, yet one of the saddest examples of a ship on fire is afforded in the loss of the *Amazon*, a steam-ship of the first-class.

The *Amazon* was one of a fleet of new vessels placed by the Royal Mail Steam-ship Company on the West India service, and was stated to be, at the time of her launching, the largest *timber-built* steam-ship ever constructed in England. She was of 2,256 tons burden, and fitted with every improvement known at the time; her entire cost was stated at over £100,000. When, on the 16th of December, 1851, she arrived at Southampton, she was regarded as the perfect model of a passenger vessel. In due time she was ready for sea, and having received her crew and engineers aboard, and a little later her passengers and the Admiralty agent with mails, she left Southampton on Friday, January 2nd, 1852. The officers were all tried men, and her commander, Captain Symons, was one of those seamen whom large steam-ship companies are only too glad to employ and retain. He was not merely an officer of thoroughly competent skill, but a man of unbending resolution, a man fitted to be a ruler among men, as should be every commander of a great vessel. Only a few weeks before he had received the thanks of the American Government, accompanied by a present of a silver speaking-trumpet, for interposing, at the risk of his own life, in an affair at Chagres between the Americans and the natives. On this occasion he not only was the means of saving much valuable property, but by his energetic conduct arrested a conflict, which, but for his intervention, might probably have been attended with much bloodshed and slaughter. The *Amazon*, a pioneer of the service she was to inaugurate, left Southampton amidst a considerable amount of *éclat*, and commenced her voyage.

"And so," says the work* from which much of the following account is compiled, "the gallant ship sped on. The wind was right ahead, but her engines were powerful,

* "The Loss of the *Amazon*." By the Rev. C. A. Johns, B.A., F.L.S., &c.

and she passed rapidly through the water. But it is necessary, in order to make clear what follows, to describe the position of her engines and boats.

"The engine-room was about the middle of the vessel, having sixteen boilers—eight in the forward and as many in the after part. There were, consequently, two funnels: one about midships, the other immediately behind the foremast. In those vessels which have but one set of boilers and one funnel these are placed in the after part of the engine-room, while the store-room, containing tallow, oil, and other inflammable materials, is placed forward. But the *Amazon* having boilers at both ends, it happened that the floor of the store-room rested directly on the wood casing that surrounded the upper part or steam-chest of the forward boilers.

"Then, with regard to the boats: most of the older vessels have life-boats resting, bottom up, on the top of the paddle-boxes, according to a plan much approved in the navy, and the smaller boats swing suspended over the water, from two curved iron props, or davits, as they are technically termed, by ropes that, running through a pulley, enable men seated in the boats to lower themselves from the ship's side to the water, when the hooks by which the tackle is attached to the boats may at once be cast off. But as it would be inconvenient that the boats so hung from the davits should be swinging backward and forward with every roll of the ship, ropes are lashed round them and fastened to the bulwark of the vessel, in order to keep them steady. Now, in order to get quit of this latter somewhat clumsy contrivance, as well as to ease the strain of the boat upon the tackling by which it swings, a different mode of fastening was adopted in the *Amazon*. There were the davits as usual, and the common contrivance for lowering the boats into the water; but instead of the undergirding ropes or guys, two iron props were introduced, each of which, branching out at the top into two prongs, received in its groove the keel of the boat, in which she sat as in a cradle, thus taking away all strain from the ordinary tackling. This change in the mode of securing the boats had, however, this effect: that, whereas in the former case the boat's crew had but to lower the boat and themselves into the water, by the new mode it became necessary, before they could do that, to hoist the boat up a few feet till it was got clear of the projecting points of the crutch on which it rested. Of what fatal consequence this necessity was will become too apparent in the course of the narrative."

The machinery was perfectly new, and, as is frequently the case on first trials, became much heated in the bearings: so much so, indeed, that water had to be pumped over them. Whether or not the terrible disaster about to be described resulted from that fact will never be known; it much more probably occurred from some light being dropped upon the waste, &c., of the oil-room. No neglect of duty was attributed to the engineers, who seem to have been exceptionally careful.

About a quarter before one o'clock, Sunday, when the ship was about entering the Bay of Biscay, Mr. Treweeke, the second officer, a most promising and practical sailor, being then officer of the watch, was on the bridge. Just before, Dunsford, quartermaster, had gone the rounds to see that the lights were all out, and had reported that all was right; Mr. Treweeke then was on the bridge, and Mr. Dunsford was standing under him to receive orders. Mr. Vincent, one of the midshipmen, was on the quarter-deck; all was

still as the grave, save the monotonous throbbing of the engines. He happened to look towards Mr. Treweeke at that moment, and saw him leaning listlessly against the railing of the bridge. Suddenly Treweeke started up, and looked earnestly at something apparently issuing from the engine-room. That officer had discovered flames issuing thence, and Dunsford was detailed to call the captain: and although he should have performed his duty noiselessly, he managed, rather boisterously, to disturb some of the passengers. The captain immediately ran out of his cabin, half nude, and after finding that the fire was serious, ran back and put on some clothes, immediately returning to the scene of action. At the same time, Mr. Stone, the fourth engineer, saw fire on the starboard foremost boiler from the iron platform on which he was standing, and instantly gave the alarm. He even attempted to stop the engines, but the smoke was so dense that he was obliged to retreat. One of the men, who was going to the engine-room to warm himself, observed a glare of light in the fore stoke-hole, and on examination found between the starboard fore-boiler and the bulkhead a flame issuing as far as he could see. The firemen's backs were turned at the time, and he shouted out to them, "Don't you see the fire? Why don't you get water?" They did not, however, seem to notice it. He rushed aft, where the hose was kept, and tried to drag it forward, shouting for assistance; but by the time the hose was brought the flames of fire were rushing up through the oil, tallow, and waste store-rooms. The flames were leaping upwards to the deck above. Owing to the smoke, he was obliged to give up the hose, and rush on deck, it being impossible to remain below any longer. The chief engineer, Mr. Angus, and one of his assistants, tried to put on the hose, and kept by it till they could not breathe. Hearing a cry for buckets on deck, Angus ran aft as fast as he could, and the passengers were then breaking open the saloon door to get on deck. Several attempts to get water to the flames were unsuccessful or utterly ineffective.

The second engineer, Mr. William Angus, stated that when he was alarmed by the cry of "Fire!" he was in the act of "blowing off"* the after-boiler, and on coming up the lower platform ladder of the engine-room, ran to set the "donkey" engine (which pumps the ship and keeps the boilers a-going). A blast of smoke stopped him, and when he recovered more or less from the suffocation he attempted to work her, but failed. All the lamps were extinguished by the smoke. Mr. Stone, the fourth engineer, came to his assistance, but was forced to retire. The stokers and others found it equally impossible to remain. One of the survivors described the progress of the flames in the engine-room "as that of a great wave of fire, before which no man could stand and live." He stated that it rushed upon his mind that if the boilers were left in their then state the water would soon become exhausted, and the boilers themselves explode, so he turned on the water into them, and attempted to remove the weights from the safety valves, so as to ease the pressure of the steam. The glass above was cracking with the intensity of the heat. "It was not three minutes from the time that the fire was discovered till the ship was in flames."

Above, on deck, all was horror, confusion, and despair, among the passengers and crew. The flames, having broken out abaft the foremast, rapidly extended across the whole breadth

* In sea-going steam-vessels the salt water employed in the boilers incrusts the sides with a deposit of salt, and it is necessary to "blow off" every now and again, and discharge the water from them.

BURNING OF THE *AMAZON*.

of the ship, forming a wall of fire as high as the paddle-boxes, cutting off all communication. One or two of the sailors, indeed, managed to get across the paddle-boxes, cautiously creeping up one side and sliding down the other, but all other means of access were effectually debarred. It was the sole chance of safety, for the boats were all in the after part of the ship. "It would be needless here to tell of the screams and shrieks of the horror-stricken passengers, mixed with the cries of the animals aboard; of the wild anguish with which they saw before them only the choice of death almost equally dreadful—the raging flame

THE "AMAZON" STEAM-SHIP.

or the raging sea, and of those fearful moments when all self-control, all presence of mind, appeared to be lost, and no authority was recognised, no command obeyed." Meanwhile the ominous fire-bell was ringing—the knell of many a poor man and woman that night.

When Captain Symons rushed on deck, his first order was to "put up the helm," which was instantly obeyed. The helmsman, assisted by Mr. Trewecke, the gallant second officer, worked at the wheel till the vessel "paid off" and turned so as to go before the wind. The effects of the wind were, by this device, somewhat moderated, but it had almost advanced to a gale, and the paddles were revolving rapidly, carrying the doomed vessel through the water with headlong speed. The flames were driven, however, forward and away from the passengers and greater number of those on board. To this movement, in fact, is to be attributed the preservation of the few boats which, as we shall see, succeeded in leaving the ship. To extinguish the fire was now out of question; while it was equally impossible to shut off the steam and stop the vessel's way. Yet, without this being done, no boat could be launched into the water while the vessel was driving on at

the rate of thirteen knots an hour. Buckets of water were still thrown on the burning mass; trusses of lighted hay and loose spars thrown overboard. "Keep fast the boats for a while, and try to save the ship!" cried the captain. But, alas! ship and crew were alike doomed. "Don't lower the boats!" repeated Captain Symons again and again; and the danger—at the rate of the *Amazon's* speed—of attempting it was too obvious. Lieut. Grylls, R.N., a passenger on board, was attempting to lower the tackle of one of the boats, when Symons "seized him by the arm, and besought him to desist, as he said everybody would be drowned. Lieut. Grylls then called out to the person by the foremast fall, imploring him not to lower, as the ship was going so fast. The person at the foremast fall, by constant and urgent request of the people in the boat, let the fall go, by which means the boat turned over, and, as nearly as could be seen, every one was washed out of her. Seeing this at the moment, Lieut. Grylls attempted to let go the after fall so as to save them, but the fall being jammed, and having fouled, and the boat thus not being clear, her stern hung in the air for a moment, until cut adrift by some one, when she turned over, and, seeing the people washed away, Lieutenant Grylls turned away from the appalling sight in horror. He then met, face to face, Captain Symons, who called out for some one to help him to clear away the port life-boat, which was stowed on the sponson, abaft the port paddle-box, and at the same moment leaped into the boat, using every endeavour to clear her away. Lieut. Grylls followed, and also exerted himself, but the flames having reached the boat, and Captain Symons's hair having caught in a blaze, and one sleeve of his shirt, he was obliged to run off, and Lieut. Grylls was compelled to follow him, both rushing through the flames and fire."

About this time it was discovered that the ship was veering round, owing to the helm having been lashed. A fresh order was shrieked out to keep her before the wind, and two of the officers sprang forward to execute the captain's bidding. The passengers were now all on deck, with what feelings we can imagine. "At last the shout was raised, 'Every man for himself!' but not by the captain. The captain called out, 'Lower the starboard life-boat!' to which the answer was, 'She is on fire!' 'Lower the larboard (port, or left-hand) life-boat!' 'She is on fire!' was still the cry. The captain dropped the bucket which he idly held in his hand. 'It's all over with us!'" But though he knew it so well, he did not relax an effort; nor did Mr. Roberts, the chief officer, nor any of the officers, all of whom went down with the ship. They were last seen collected in a group near the helm; and to the close of that appalling scene nobly did their duty. The last words the captain was heard to say were, "It has got too far." He then turned aft, took the wheel, and that appears to have been the last that was seen of Captain Symons.

When it was discovered that the two life-boats were on fire, attention could only be given to the other boats. All efforts must be made: better to drown than to die in the midst of flames—suffocated, scorched. "One of the passengers, Mr. Alleyne, of the West Indies, was observed pacing the deck, with his hands clasped in prayer, patiently waiting that awful fate from which he knew there was no escape. A gentleman and lady, in their night-dresses only—both of which were on fire—came on deck, and, with their arms round each other, walked over to one of the ship's hatches, and fell together into the flames. They had previously been seen standing right abaft and looking perfectly collected, the gentleman before the

lady, apparently to keep the heat from her. A female passenger rushed on deck, having on only her night-gown, the bottom of which and her legs were much burnt. Three times she was placed in one of the boats which was saved, but she refused to remain. Several persons hurriedly said to her that they would soon give her plenty of clothing when she got away from the ship, but modesty prevailed over the love of life, and she remained behind to perish.

A horrible story of one standing near the helm is given: his face and side burnt, and a huge blister formed, which burst in; the skin was falling away in ribbons. A little boy was also burnt black, and the skin was falling from him in a similar manner. Still the vessel was dashing forward in headlong speed, but still efforts were made to launch the boats; but here, in consequence of the manner in which they were stowed—resting on iron crutches or brackets, instead of being simply suspended, as usual—unexpected difficulties presented themselves. It was necessary first to raise them, put them over the bulwarks, and lower them—a work of time and labour. In the hurry two of the boats were stove in; and in the case of others, one end would be lowered properly, the other remaining high in the air, so that the wretched passengers and sailors who crowded into them were plunged violently into the water, escaping the fury of one element only to be devoured by another. In one single case fifteen were thus drowned, while one only escaped. Not to accumulate the details of horrors, which constantly repeated themselves, it may be here stated that the whole number of persons on board the *Amazon* when she left Southampton was 162; of these 110 formed the crew; there were 50 passengers, and the mail agent and his servant. The first boat which landed at Plymouth brought in 21; the *Gertruida*, a Dutch galliot, picked up a boat containing 16 on Sunday night, and another containing 8 on the following morning. Another vessel, also a Dutch galliot, picked up 13 more. The total number lost amounted, therefore, to 104, and 58 only were saved.

A survivor stated that during the time they were drifting in their boat towards the ship, which was burning broadside on to the wind, her mainmast went first, the foremast following; it was a considerable time before the mizen-mast fell, directly after which he noted a slight explosion of gunpowder. Previous to this a barque hove in sight, and passed between their boat and the burning ship. They judged her to be outward-bound from her being under close-reefed topsails. As she passed at between three and four hundred yards they hailed her several times with their united voices, strengthened by all the energy of despair. She answered them, and brailed her spanker, and they naturally thought she was preparing to bear up for their rescue. "I shall never forget," said the narrator, "the deep sob of hope with which I noticed these preparations, or the bitterness of feeling with which I saw him spread his canvas to the wind, and wear round past the stern of the burning vessel, as he left us to our fate."

Among those who perished on that terrible night was a distinguished author, whose writings are, or should be, familiar to all readers. Warburton* perished either in the flames or, as some thought, in one of the boats which was swamped. He had been sent out by the Atlantic and Pacific Junction Company, specially deputed to make a friendly arrangement with the Indians of the isthmus of Darien. As an old and practised traveller, he had proposed

* Eliot Warburton, the author of "The Crescent and the Cross," &c., &c.

to stay on the isthmus for some time, in order to study its topography, scenery, climate, and resources. The Rev. Acton Warburton, his brother, on receipt of the fearful news, and with the fact before him that there were boats not yet accounted for which had been seen to leave the ship, proceeded in a steamer from Plymouth on January 17th, in the hope that,

RESCUE OF THE SURVIVORS OF THE "AMAZON."

by cruising about in the Channel and entrance to the Bay of Biscay, some traces might be found of his missing relative. All was in vain; no further vestiges of the crew or passengers were found. A few days afterwards a homeward-bound vessel picked up at sea, among other fragments of the wreck, three settees, or backed forms, which had stood on the deck of the *Amazon*, and which had been lashed together, doubtless for the purpose of supporting some of the crew or passengers in the water. Other pieces of the wreck were washed ashore on different parts of the coast, and a piece of burnt timber was picked up near the Eddystone,

having attached to it a fragment of a lady's dress. One of the mail bags, containing newspapers, unscorched, but very much damaged by sea-water, was washed ashore near Bridport three weeks after the occurrence of the wreck.

The Rev. William Blood, who was one of the survivors, was landed at Plymouth in one of the boats late on Thursday night, and was much too ill to commit his thoughts to paper during the Friday and Saturday following. But on the Sunday following, in presence of 4,000 people, he, in the course of an extempore sermon, gave his hearers a graphic description of the catastrophe and of his escape from the wreck.* The first evening of the voyage he sat up till between eleven and twelve o'clock, enjoying the sea-breeze and the beauty of the scene. He had then retired, undressing himself as at home, and had slept well. On the fatal night, however, he seems to have had an indefinite presentiment that something was about to occur. On that evening, says he, "without any cause, I was induced to retire early (nine o'clock), and when going to bed it was deeply impressed on my mind not to undress. I accordingly lay down upon the bed with my clothes on, even my boots, and immediately fell into a sound sleep. At about half-past twelve I awoke, greatly refreshed, and prepared for what was to follow. No voice awoke me; no alarm had been given; no bell aroused me. When I awoke, I felt surprised by a peculiar indescribable sensation as of solitude, of vacancy; and on opening the window of my cabin, I looked out, but saw no person; still all was silent; and with the same feeling I arose, went out of the cabin, without even taking my watch, which lay beneath my pillow, and, as I passed along the saloon, I overheard the voice of the stewardess in the distance, saying, 'The ship is on fire!' I then hastened towards the stairs at the fore part of the ship, and saw (oh, horror!) the blaze ascending right across the vessel. I ascended the stairs just in time to escape the flames. When on the deck, I had merely time to walk across to the bulwarks, for on the deck the flames were spreading with terrific rapidity.

"When I got on deck I saw no one, and heard no noise or confusion, so that much of the disaster must have been over by that time. I then saw some men endeavouring to lower one of the boats near the paddle-box, and at the same moment I became fully aware of my awful position, and that I had to choose between death by fire or by water, unless I made some effort to save myself. With this conviction on my mind, I laid hold of a rope, and swung myself over the ship's side, and was just about to precipitate myself into the boat beneath me, which was then swinging with her stern in the water. In another moment her human freight were in the death struggle in an element not less terrible or destructive than that from which they had been making such frantic efforts to escape; and even at this moment their appalling shrieks, as they struggled amidst the dark and gloomy waves, seem to ring in my ears. Here, again, I think Divine interference was manifested on my behalf, for an apparent accident saved me from that boat. Almost crippled as I was, I managed, by the aid of the rope to which I clung, to regain the now blazing deck, just as some of the crew were endeavouring to release one of the life-boats from her very embarrassing fastenings. They succeeded. She was turned over the ship's side. I was in her then; and, while suspended midway between fire and water, she turned keel up, and her oars were thrown out.

* "The *Amazon:*" A sermon preached at St. Andrew's Church, Plymouth, January 18th, 1852, by the Rev. William Blood (one of the survivors).

She righted in a few minutes after, and when she did so I was still in her—by what means I know not, but that the All-seeing eye was still upon me. In a minute or two more she was lowered into the sea with her freight of thirteen human souls, and amidst cries of 'She is leaking!' 'She is stove in!' 'She will be swamped!' but at the same moment one of the crew in her cut the rope that bound her to the blazing ship, and she at once dropped astern. We now made the terrible discovery that she was really leaking, and with the apparent certainty of having escaped one horrible death only to perish by another, we set our wits to work to staunch the leak and bale out the water. Michael Fox, one of the sailors—a man who merits much honour for his coolness and bravery throughout—actually thrust his arm through the leak to arrest the ingress of the water; while I handed him my cap, another gave his stockings; others did likewise; and then, with such means as these, and with the aid of our boots and two little empty casks, we managed to prevent the life-boat from being swamped. While thus occupied, and being tossed about, without food, water, oars, helm, or compass, totally at the mercy of the contending elements, we had dropped about two miles astern of the doomed ship. She was apparently motionless, while the sea continually broke over us. A barque passed between the blazing pile and our ill-omened craft. Her hull, sails, and rigging were reflected against that fearful blaze with a blackness of shadow that appeared to render still deeper the depth of our calamity, and which the morning's light helped not to lessen, for the barque had disappeared. After the barque had departed, we fancied we saw a boat, somewhat like our own, close to us, and we hailed her, with all the power of our united voices, for oars; but she either heeded or heard us not, and quickly disappeared, and the impression was that she had been swamped. Our frail tenement was still knocked about as I have stated, still within sight of the burning ship; and at about five o'clock on Sunday morning, when the powder on board caught light, she blew up, presenting to our terror-stricken gaze a most awful and sublime spectacle. Vast beams of flaming timber were hurled about in the air, and seemed suspended there for a moment, and then disappeared with a hissing noise in the roaring waters. A moment after, and all that remained unconsumable by fire of that once noble specimen of our mercantile marine vanished like a shot beneath the waves. And then came upon us that intensity of darkness that lent an additional horror to our truly forlorn condition. However, the merciful Ruler of our destinies had not deserted us; for as the Sabbath morning's light dawned the wind abated and the sea became comparatively calm, except that there was still a heavy swell; but still, there we were, thirteen human beings, in a frail, leaky boat, without an atom of food of any sort, the vast ocean around us, and in a state of perfect ignorance as to our geographical position, while our other physical wants, such as of clothes, boots, &c., made our case truly deplorable. By about twelve o'clock at noon, on Sunday, we had drifted, as nearly as possible, to the spot where the *Amazon* had sunk; and upon the then comparatively calm sea were strewn about but too many evidences of the last night's fearful devastation—immense spars, charred timbers, barrels, bales, and boxes innumerable. We drew up one of the latter, got it on board, forced it open, and found that it contained only a quantity of shoes. To those each helped himself to a pair, and then threw the remainder overboard.

"As the Sabbath morning advanced towards noon-day the glorious sun burst forth, and appeared as a happy harbinger of the fortunate release in store for us. The weather was fine,

though there was a heavy swell in the sea, and we were all up to our middle in water. William Angus, poor fellow, was of no use in the boat. When leaving the ship, he had thrown himself overboard, fell upon my back, and cut his head severely. He appeared in a state of despondency for the loss of his brother; and another poor fellow had part of the fingers of one of his hands chopped off. At two o'clock the sun shone forth in all his splendour. By this time we had taken up some of the bottom boards of the boat, and these we had converted into paddles, rudder, and mast. Lieut. Grylls took from off his head his shirt, which he had previously wrapped around it, and made a flag of it; and in lieu thereof I tore off the skirts of my coat, one of which I tied around his head, and with the other I made a cap for myself. The remainder of that coat I still have, and will preserve as a memento; and so I ought, for it served as a protection against the pouring rain, while our bodies lay partially submerged in the water and the waves at times dashed over us. This coat became most useful to me afterwards, during the eleven days on board the galliot, for it served as a pocket-handkerchief, napkin, &c.

"There was a peculiar death-like feeling produced by being obliged to sit in the water all night, while at the same time the whole body was saturated with the rain and the billows poured their waters over us. At one time, shivering with cold and wet, I strove to keep my back pressed against another person to preserve the vital heat. Such cold I never felt before. The casks which we found in the boat were of essential use. How wonderful that they should have remained in the boat when she capsized and threw out the oars, for without them she must have swamped.

"Dismal were the thoughts suggested on that day as to the future. Will a storm arise? If so, our little vessel cannot live; she must be overwhelmed by the raging billows! How long can we remain in the midst of the wide extended ocean? Shall we starve—perish with hunger? Such were the gloomy forebodings, when the thrilling, joyful exclamation of 'A sail!' burst from the lips of one of the crew. Then followed the exclamation of, 'Oh, I hope she sees us! Does she hear us? Is she coming this way?' She was then on the very verge of the horizon, and—disappeared! Mute despair was then plainly perceptible in every face. I had made up my mind to die of starvation, but thought I could exist without food for a long time, for having once been ill in Paris for three weeks without even having tasted food of any sort during the whole of the time, I felt now prepared to go through the same ordeal. But again the joyful sound was uttered by Lieut. Grylls, 'I see another sail!' We then commenced tearing up the boards from the bottom of the boat, and converting one of them into a mast, upon which we attached a shirt as a signal of distress, and breaking the rest of them into paddles and a helm, we determined, as our lives depended upon it, to make a desperate effort to approach the welcome visitor. Hour after hour was passing away—our progress through the waves was slow, and the sailors were beginning to relax their efforts at the paddles in utter hopelessness. The sun was fast fading away, and the horrors of another night at sea in an open boat stared us in the face. I begged, prayed, and entreated the men to continue their exertions, that with the light of day we still had hope; an hour—perhaps a few minutes—may bring us near enough to be seen. Alas! there were four out of the thirteen quite helpless—viz., poor Angus, the man who had lost his fingers, a boy, and a Spanish gentleman, who appeared to have become quite

paralysed. The sun was just about to shed his last ray of light upon our eyes and hope in our hearts, when those on board the vessel saw us, heard us, bore down upon us, and took us on board. Had not the great God sent us this timely succour, no account of our fate could have ever been made known, for any one of the storms which prevailed during the following eight or nine days must have destroyed us. We were hauled on board by means of ropes, and stowed in a little cabin, 6 feet by 4½ only; but yet, what a palace compared to the horrors from which we had just been rescued! This vessel was a small Dutch galliot, and had a cargo of sugar from Amsterdam, consigned to Leghorn; and was, therefore, desirous of landing at Gibraltar, it being on her course. However, adverse winds set in; the captain of the galliot knew not his position; he was unable to take an observation; and was, in consequence, knocked about for nine days with this serious addition to his crew. I had been visiting the house of a noble friend but a few weeks before, but what was it compared to our present little home?" They were at length safely landed at Plymouth.

Among so many gloomy incidents, one of another nature may well be recorded. The name of Lieutenant Grylls has been mentioned as one of the survivors. But the *Cornwall Gazette* of January 8th had the following announcement:—"Lost, on board the *Amazon*, mail steam-packet, on Sunday, the 4th inst., in which vessel he had taken his passage to join H.M.S. *Devastation*, to which ship he had been appointed as first lieutenant, Lieutenant Charles Gerveys Grylls, R.N., aged twenty-five, eldest surviving son of the Rev. Henry Grylls, vicar of St. Neots." But early in the morning of Friday a special messenger arrived at St. Neots, bearing a letter to the good vicar from his son, stating that he was alive and safe, and that he hoped to be with him in the evening. The news soon spread; all the neighbouring hamlets turned out their inhabitants, the village bells were rung, and a party of about 150 persons set off on the road to Plymouth to draw him home by hand. This the gallant lieutenant would not allow, being too anxious to return to his friends. A triumphal procession was, however, formed, escorted by which this witness from the dead was restored to his bereaved father. One can imagine the joy in the household, and the strong revulsion of feeling there!

"On taking a review of this overwhelming catastrophe," says the Rev. C. A. Johns, "the reader will rise from a perusal of the narrative having his mind painfully impressed with the fearful loss of human life; and as he endeavours to picture to himself the incidents as they severally occurred, he will be more inclined to doubt that any one was possessed of nerve sufficiently strong to stand the first half-hour's ordeal rather than to wonder that so few escaped. A vessel, constructed of the best material employed in ship-building—oak, teak, and Dantzic pine—but, nevertheless, a structure of wood, bearing, in addition to cargo, crew, and passengers, 1,000 tons of inflammable coal, and a framework of massive iron, unceasingly grinding with the force of 800 horses—sixteen furnaces and as many huge boilers, all employed in generating the most powerful instrument of usefulness or destruction (as the case may be) which man has reduced to his will—a store-room in the vicinity of the boilers, plentifully stocked with oil and tallow—well might the lip quiver and the cheek blanch at the bare idea of FIRE being allowed to creep with but a flickering light beyond its prescribed limits. But, besides all this, he will remember that to this concatenation of perils—themselves too terrible to dwell on—must be added contingencies which aggravated

CAPTAIN NARES CONDUCTING H.R.H. THE PRINCE OF WALES OVER THE *ALERT* AT PORTSMOUTH.

the danger in a tenfold degree. The ship was new, her timbers were dry and resinous—not, as is the case with sea-worn vessels, saturated with salt, and therefore less inflammable, but converted into rapid fuel by the unusual heat, which from some cause, explained or unexplained, was perceptible at a great distance from her boilers; the crew, though young and efficient, and more than one-half of them practised servants of the Company, were yet strange to the ship, not even having had their various duties assigned to them, nor familiar with the persons of their officers, as became evident afterwards from the discrepancies in their statements of names; the wind was blowing a gale in the direction

THE "LONDON."

which would most readily extend a conflagration from the probable source of fire to the stern, where the majority of passengers were congregated; the time was midnight; many of the officers, weary with their previous exertions, were recruiting their strength by a brief repose; most of the seamen and all the passengers were buried in sleep; the sea was in a state of commotion; the place was the Bay of Biscay, the dread of outward-bound mariners; the boats, though unexceptionable as to number, capacity, and quality, were not stowed in the usual simple way, but rested on brackets, from which it was necessary for them to be lifted before they could be lowered even into that foaming ocean. Suddenly the cry of FIRE! is shrieked out; the bell is set a-ringing—the death-knell—the knell of sudden, inevitable, agonising death to many a stout heart on board that proud but perishing ship. He must sleep soundly who failed to hear that piercing cry and the heartrending shrieks which took it up. Some thought it of no consequence: 'We will dress, and hasten on deck, that we may help to extinguish it.' But there were some who knew better; they could

look a hurricane in the face, they could encounter a hailstorm of bullets in the execution of their duty, but they knew that, with that enemy on board, the iron beams of the *Amazon* could only be cooled by the water which rolled at the bottom of the ocean. Those brave men did all they could—they gave their charge a brief space to make their peace with God, if God were in their thoughts, and resigned themselves to His keeping who alone could help them. Before the least terrified could gain the deck the flames were soaring above the funnels. A flight of fire was sweeping the deck; it extended from one side of the vessel to the other; it separated those in the fore-part from those in the stern; it shot forth from the port-holes; it singed the hair and scorched the skin of those who were furthest from its reach; and the air of heaven was one huge blast-pipe, fanning it into fury! Are the fire-engines of no avail? They are themselves burning. Then stop the paddle-wheels, that the boats may be launched. Alas! the engineers, half suffocated, have long been driven from the engine-room, and the levers are beyond their reach. But the ship yet answered her helm, and was put before the wind. And now the flames were borne in an opposite direction, towards the bow, and the gale seemed to be diminished. Now the captain cried, 'Lower the larboard lifeboat!' 'It is on fire!' 'Lower the starboard lifeboat!' 'It is on fire!' Other boats yet remain, and crew and passengers crowd into them. Fatal haste! It was a work of time and difficulty to lift them from their sockets before, with this addition to their weight it is next to impossible. One after another they are tumbled, rather than lowered, into a sea which, from the rapid motion of the vessel, appears to be rushing from them. Some hang suspended, and their cargoes are swept away by the boiling surge; one is swamped, another is stove in. Still the fire is drawing nearer; it surrounds the boilers, and the water contained in them is nearly exhausted. When that has happened they will burst, perhaps, and then the engines will cease to work. Strange that success in effecting an escape should be promoted by the bursting of a boiler—an accident which, had it come alone, would have occasioned terror and dismay. No one knows, amidst the overwhelming din of air, fire, water, steam, human shrieks, and even the cries of dumb animals, whether this event happened or not. It was not dreaded—it was hoped for. It could not have added to the dismay; so, if it happened, it was unnoticed.

"However that may be, the ship could not free herself from her destroyer, but moderated her speed. A few boats were put off—no living soul can say how many—all, probably, that were left, and then, perhaps, the officers embarked on a raft, and—we dare not carry our thoughts further in that direction.

"The vessel lay a burning log on the waters for four or five hours, and then, as if an evil demon had possessed her, or as if some gorgeous *fête* had now reached its close, threw up a discharge of brilliant fireworks—and the billows of the Atlantic swept unconcernedly over her hissing embers."

The following example—the terrible loss of the *London*—presents a striking contrast to that of the *Amazon*. She was literally *swamped* at sea, and there are no recorded parallels to the case on such a scale. Vessels, indeed, are often lost by great leakage produced by collision, but the cases are rare in modern days and in well-found ships, where ordinary leakage and water "shipped" on deck makes any great difference, and in steam-ships the pumps worked by the "donkey" engine, as a rule, effectually prevent any danger from these sources.

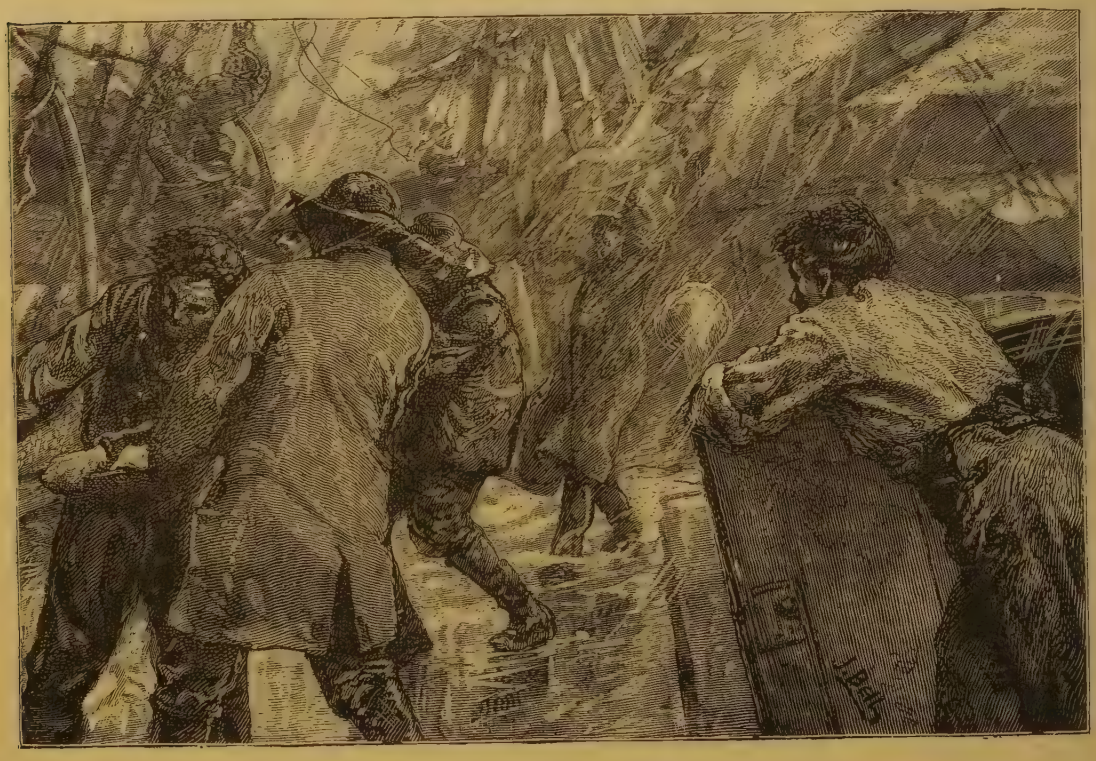
The *London* was a first-class passenger steamship of her day. She was nearly new, of 1,700 tons, and valued at £80,000. She belonged to a distinguished firm, and had been constructed on the most approved principles. Her commander, Captain Martin, was an officer of ripe experience, and this was her third voyage. She had acquired a first-class reputation; and for months before the time* of sailing, berths were so eagerly engaged that it would have been difficult to accommodate, in the roughest manner, many more, while in the saloon there were no vacancies. One lady who was desirous of proceeding with her family from Plymouth to Melbourne had made repeated applications to the owners' agents, and the captain had been consulted, but, fortunately for the applicant, had declared that the cabins were so full that he could not possibly accommodate her—a result that, at the time, caused her much disappointment; afterwards she had reason to thank her good fortune. A second-class male passenger was so alarmed at the rough weather which the *London* encountered on her way from the Thames to Plymouth, that on arrival at the latter he went ashore, resigned his passage, and returned to his home, thus unwittingly saving his life. A young man, as the result of some family quarrel, had left his home, and taken a passage by the *London*. He was advertised for in the *Times*, and importuned to return, his friends being at first unaware of his whereabouts. Messengers were sent down to Plymouth, his friends having later acquired some clue to his movements, and an influential ship-broker in the town was employed to intercept his flight should he attempt to sail thence. Fortunately, he was detected among the passengers of the *London*, and the fact communicated to his family by the broker, the result of which was that a brother of the young man went down to Plymouth, and persuaded the would-be emigrant to forego his voyage.

The *London* left the East India Docks on December 29th, 1865, and on account of the severity of the weather remained at anchor at the Nore during part of the 30th and the whole of the 31st. This fact alone would indicate that Captain John Martin, her commander, was a careful seaman. The weather remained boisterous, and after getting out into the Channel the pilot decided to take the vessel for shelter to Spithead. When the weather had abated she proceeded to Plymouth, arriving there on the 5th of January. Here an incident occurred, ominous in its nature, and particularly distressing at the commencement of a voyage, more especially as many passengers at such a time are nervous and fearful. The small boat from a Plymouth pilot cutter, which had on board the pilot and his assistant, was swamped. The latter was rescued by a boat from the *London*, but the pilot was drowned. The remainder of the day was occupied in shipping an additional number of passengers and filling up with coal. She sailed the same evening. The weather is described as having been then moderate.

On the 6th and 7th of January the wind rose, accompanied by strong squalls and a high sea, which caused the ship to roll considerably. Still the weather was not so boisterous but that Divine service was held on the 7th, it being the Sabbath. On Monday, the 8th, the

* This is common enough in all the great steamship lines, where certain vessels acquire a name for speed and accommodation, and where the captain is known as a first-class commander. Passengers who can afford to wait often delay their trips for weeks for the opportunity of sailing on a favourite ship.

wind freshened to a gale from the south-west, and at 9 a.m. the captain ordered the engines to be stopped, and to make sail. At 5 p.m. the weather improved, and all sails were taken in, and steaming resumed. Early on Tuesday the wind increased to a hard gale, with a very heavy sea, the ship going under steam only, and at the reduced rate of two knots an hour. At this time she pitched with terrible violence, taking whole seas over her bows. At 7 a.m. an unusually heavy sea broke into the life-boat stowed on the port-quarter, filled her completely, and carried her overboard with all her gear. At 9 a.m. the ship gave a



GETTING OUT THE "LONDON'S" BOATS.

tremendous pitch, so as to bury herself forward, when the sea carried away the jib and flying jibbooms, and they took with them the fore-top mast and fore-top gallant, the fore-royal and main-royal masts, with all their spars, sails, and rigging. The masts fell in-board, and hung suspended by the rigging, but the jibbooms remained under the bows, fastened to the ship by their stays, which were of wire. Every effort to get them clear failed till next morning, it having blown a furious gale all night from the south-west, with a sea that kept constantly washing all forward. On the morning of Wednesday, the 10th, the gale continued without the least abatement, and at 3 a.m. the captain gave orders to Mr. Greenhill, the engineer in charge, to get up full steam, as he intended to put back to Plymouth, in order to refit. The ship's course was accordingly shaped for home, the fore

and mizen stay-sails were set, and she steamed along moderately at the rate of five or six knots. In the course of the morning, the masts, which up to that time had been swinging about aloft, were secured, and the wreck of the jibboom cleared away. Observations taken that day indicated that she was about 200 miles from the Land's End. At 6 p.m. both the fore and mizen stay-sails were carried away in a furious squall; another life-boat and the cutter were washed clean overboard and lost. At 9 p.m. the wind increased to a perfect hurricane from the north-west, the squalls blowing with a degree of fury seldom paralleled. The engines were stopped, and the ship put under the main top-sail only, which was soon blown away in shreds. The captain once more ordered the engines to be set in motion. Up to this time, notwithstanding the heavy seas she encountered, it does not appear that the vessel had shipped much water.

At half-past 10 p.m. a terrific sea broke upon the ship over the weather or port gangway, and an immense mass of water, the crest of a mighty wave, descended almost perpendicularly over the hatch of the engine-room, smashing it right in, admitting tons upon tons of water, washing from the deck into the engine-room two men, a seaman and a passenger. There being nothing to obstruct the influx of sea, the engine-room began to fill with water. The fires were extinguished at once, and in about eight minutes the engines ceased to work. The engineers remained below till the water was above their waists, and they could work no more. The large bilge-pumps also proved useless, and the condition of the ship became utterly helpless, often rolling into the trough of the sea, rolling gunwale under, and labouring heavily. The captain called on those who were baling, "Men, put down your buckets, and come and try to secure the engine-room hatch, for that's our only chance of saving the ship! Secure that, and we may keep her afloat yet." Every endeavour, however, to replace the hatch proved unavailing. Efforts were made to stop the opening with sails, mattresses, and spars, but without success; and although the donkey-engine and pumps were kept at work, yet the water quickly gained upon them, and all their efforts were fruitless. It was then that the captain uttered words of which he knew the full meaning, and which must have thrilled through many of the passengers' bosoms who had hitherto been hoping against hope—"Boys, you may say your prayers!" All was over with them.

At 4 a.m of the 11th a tremendous sea struck the ship abaft, which stove in four windows, or stern-ports, of the upper or poop cabin. Through the breaches thus made the sea rushed into the ship in such quantities that the 'tween decks were soon half full of water. The ship at this time was settling fast; the captain went into the engine-room, and, with the engineer, took soundings, when it was found that there was fourteen feet of water in her. The captain then told Greenhill that he had abandoned all hope of saving her, and shortly afterwards made a similar communication to the passengers. At about 10 a.m. the captain ordered the boats to be got ready, which was done, and the starboard pinnace, which was of iron, was lowered into the water, but was almost immediately upset by the sea, and lost. Shortly after this the captain entered the saloon, and said, "Ladies, there is no hope for us, I'm afraid. Nothing short of a miracle can save us!"

During the hours of agony and horror which had preceded this announcement the

Rev. Mr. Draper,* a Wesleyan minister on board, was incessant in administering religious comfort to his fellow-sufferers; and we are told by the survivors that the women (all of whom perished in the sequel) sat about him reading their Bibles, with their children grouped around; "and occasionally some man or woman would step up to him and say, 'Pray with me, Mr. Draper'—a request that was always complied with." What a scene must have been presented at that last prayer-meeting in the cabin, the ship labouring and tossing the while; the waves, with their ominous roar, breaking over her and dashing against her; while by half-extinguished lights little groups of earnest, pale-faced people huddled together, shivering and trembling, before the doomed *London* took her last leap into the dark waters!

After the announcement by the captain that they must prepare for the worst, Mr. Draper is stated to have stood erect, and with a clear, firm voice, the tears streaming from his eyes, said, "The captain tells us there is no hope—that we must all perish; but I tell you there is hope for *all!*" The reader will know what the good old man meant. Mrs. Draper is said at the last moment to have handed her rug to one of the seamen who was attempting to get off in a boat, and when asked what she would do without it, she replied, "It will only be for a few moments longer."

As there were so few survivors to tell the tale, the incidents which must have occurred during this terrible time are necessarily somewhat meagre. One passenger rushed on deck labouring with a heavy carpet-bag, which he expected to save with his life. The captain could hardly forbear, even at that terrible time, a melancholy smile at the absurdity of a man at such a moment taking any thought about his property. When the only boat which got off safely was about to leave the fated ship, a lady entreated to be taken on board, offering a thousand guineas as a reward. But it was impossible—millions could not have saved her. A passenger who was saved, just before leaving in the boat, went into the cabin to persuade a friend to join him. "No," said the other; "I promised my wife and children to stay by them, and I will!" His friend helped him to remove the children to a drier part of the cabin, and then, with a sad good-bye, ran up to the deck. When last seen, the man was still standing with his wife and little ones. Another passenger said to a friend, also one of the few saved, "Jack, I think we are going to go." "I think we are," was the answer. "We can't help it," rejoined the first; "but there's one thing I regret:" and he went on to explain how some £500 of his money was in the Bank of Victoria, and he evidently feared some hitch in its recovery. "I should have liked my poor father to have it." He was a true son to the last.

As at the wreck of the *Amazon* a distinguished author lost his life, so on the *London* a great actor, the celebrated G. V. Brooke, perished, but perished nobly. The *Times* (quoting the *Western Morning News* of the date) says:—

"Down into the waves, with 269† others, has sunk Gustavus V. Brooke, the famed

* The Rev. D. J. Draper, a man of fifty-six years of age, was returning to Australia, where for thirty years he had laboured as a missionary, and where he was very generally and deservedly respected. Part of the information respecting the wreck is taken from "The Storm and the Haven," a tribute to his memory, published in Melbourne in the year of the terrible occurrence.

† The official inquiry of the Board of Trade elicited the fact that the number was somewhat smaller. The total number of souls on board was 263, and of these 19 were saved, leaving the number who perished at 244.

tragedian, who was bound for the country which had been the scene of a reverse of fortune for him, but previously of many successes. He was a tall man, of powerful build, and he is stated by the rescued passengers to have exerted himself to the utmost in trying to keep the ship afloat. The Dutch portion of the crew, twenty-one in number, refused to work, and, according to the English sailors who were saved, these men went to their berths and remained there, so that the passengers had to work at the pumps for many hours with the English seamen. Mr. G. V. Brooke exerted himself incessantly; attired only in a red Crimean shirt and trousers, with no hat on, and barefooted, he went backwards and forwards to the pumps, until working at them was found to be useless, and when last seen, about four hours before the steamer went down, he was leaning with grave composure upon one of the half-doors of the companion; his chin was resting upon both hands, and his hands were on the top of the door, which he gently swayed to and fro, while he calmly watched the scene. One of the passengers who saw him said, 'he had worked wonderfully—in fact, more than any man on board the ship.' To the steward, to whom Mr. Brooke made himself known, he said, 'If you succeed in saving yourself, give my farewell to the people of Melbourne.'"

The last trace of the gifted tragedian is found in the following episode. In the *Times* of March 20, 1866, appeared the following letter from Mrs. Brooke (Avonia):—

"To the Editor of the *Times*.

"Sir,—On Friday night I received the last written words of my dear husband. They were found in a bottle on the Brighton beach, and forwarded to me by Mr. C. A. Elliott, of Trinity College, Cambridge. They are written in pencil on a torn envelope, and read as follows:—'11th January, on board the *London*. We are just going down. No chance of safety. Please give this to Avonia Jones, Surrey Theatre.—Gustavus Vaughan Brooke.'

"Will you be kind enough to insert this fact in your valuable journal, for, sad as the message is, he has many friends who will be glad once more to hear from him, even though his words have come from his very grave.

"With respect, &c.,

"Avonia Brooke."

"36, Albemarle Street, Piccadilly."

At 2 p.m. there could not be a doubt—the vessel was sinking rapidly. The captain then directed Greenhill that, as the port cutter was ready for lowering, he had some chance of saving himself, and that he had better get into her. The captain shook hands with him, and said, "There's not much chance for the boat; there's none for the ship. Your duty is done, mine is to remain here." The boat was lowered, and four men, followed by others of the crew, got into her. When asked to come into the boat, the captain answered in the true spirit of a sailor-hero, "No, I will go down with the passengers, but I wish you God speed, and safe to land!" Noble John Bohun Martin!* But not, thank

* It is a fact that Captain Martin had an interest in the *London* to the extent of £5,000. Hard to lose life and property so valuable—may be, so important to others at home—at one and the same time!

God! the only one on record; he was but one of the noble army of sailor martyrs of whom Mrs. Hemans sung so touchingly:—

"Yet more! the billows and the depth have more!
High hearts and brave are gathered to thy breast!
They hear not now the booming waters roar;
The battle thunders will not break their rest.
Keep thy red gold and gems, thou stormy grave!
Give back the true and brave!

GOING DOWN!

"Give back the lost and lovely! those for whom
The place was kept at board and hearth so long,
The prayer went up through midnight's breathless gloom,
And the vain yearning woke 'midst festive song!
Hold fast thy buried isles, thy towers or throne—
But all is not thine own.

"To thee the love of woman hath gone down;
Dark flow the tides o'er manhood's noble head,
Or youth's bright locks, and beauty's flowery crown:
Yet must thou hear a voice—Restore the dead!
Earth shall reclaim her precious things from thee!
Restore the dead, thou sea!"

The boat, into which the captain had thrown a compass, and to the occupants of which

he had shouted their course, "NNE. to Brest!" left the sinking *London* none too soon. The number in the boat consisted of nineteen souls, all that were saved by any means, and comprised the first, second, and third engineers, one midshipman, twelve of the crew, and *three* passengers (all second class; no first class or steerage passengers whatever were saved). Shortly afterwards those who went in the boat pushed off from the ship, seeing that she must immediately sink, and apprehending that the boat might be sucked in as she went down. They had hardly got eighty yards off, when the stern of the *London* plunged beneath the waves, with crew and passengers and all. Her bows stood upright for a moment or two preceding the fatal plunge, exposing the keel as far as the foremast. The wind was howling so fiercely that not a sound could be heard of the shrieks and groans of over two hundred persons who were going, in sight of the pitiful remnant in the boat, to their last doom. They saw a whole group of passengers suddenly swept off the deck, and they saw that the remaining boat, full of people, was drawn down into the vortex made by the sinking ship. The third officer, Mr. Arthur Angel, aged 20, with noble devotion to his duty, was observed still at his post by the pumps as she went down. The next minute there was but a watery waste over the grave of that devoted band, so full of hope and life but a day before.

With but a few biscuits on board, and drenched to the skin by every wave, the nineteen survivors in their open boat drifted about for twenty hours. They fancied that they saw a ship through the gloom, and raised their voices in one united shout. They were heard, and their hail returned; but they were not seen, and had no light to show. The ship tacked again and again in the hopes of finding them, and when their suspense was at its highest, sailed away, and they saw her dim form disappearing in the darkness. When day dawned another ship was sighted far in the distance. A shirt was hoisted for a signal, and the oars were zealously plied. After five hours they were rescued by this vessel, the Italian barque *Marianople*, on board which they received a hearty welcome from the captain and his men. They were eventually landed safely at Falmouth.

CHAPTER XXII.

Early Steamship Wrecks and their Lessons.

The *Rothsay Castle*—An Old Vessel, unfit for Sea Service—A Gay Starting—Drifting to the Fatal Sands—The Steamer Strikes—A Scene of Panic—Lost Within easy reach of Assistance—An Imprudent Pilot—Statements of Survivors—A Father and Son parted and re-united—Heartrending Episodes—The Other Side: Saved by an Umbrella—Loss of the *Killarney*—Severe Weather—The Engine-fires Swamped—At the Mercy of the Waves—On the Rocks—The Crisis—Half the Passengers and Crew on an Isolated Rock—Spolasco and his Child—Holding on for Dear Life—Hundreds Ashore "Wrecking"—No Attempts to Save the Survivors—Several Washed Off—Deaths from Exhaustion—"To the Rescue!"—Noble Efforts—Failure of Several Plans—A Novel Expedient adopted—Its Perils—Another Dreary Night—Good Samaritans—A Noble Lady—Saved at Last—The Inventor's Description of the Rope Bridge—The Wreck Register for One Year—Grand Work of the Lifeboat Institution.

The *Rothsay Castle* was a steamship built in 1812, and was little enough adapted for marine navigation. She was one of the first vessels of the kind on the Clyde, and was perhaps constructed for the ordinary wear and tear to which a river vessel is exposed,

but certainly, at her age, should never have been allowed to leave Liverpool for Beaumaris in weather so bad that an American vessel which had been towed out that day had been compelled to return to port. She had been, it was said, at one time, condemned to be broken up, but other counsels had prevailed, and she had been patched up and repaired for continued service.

At ten o'clock on Wednesday morning, the 17th August, 1831, the vessel was appointed to sail from the usual place, George's Pier-head, Liverpool; but there was a casual delay at starting, and she did not leave till an hour later. She was freighted heavily, and it was computed that hardly less than 150 persons (if the children carried free were counted) were on board. A majority were holiday seekers; the vessel was tricked out with colours, and as the vessel left a band struck up its gayest music. Among the pleasure parties on board was one from Bury, in Lancashire, consisting of twenty-six persons. They set out in the morning, joyous with health and pleasant anticipations, and before the next sun arose all of them, except two, had been swallowed up in the remorseless deep! *

The vessel proceeded very slowly on its course, making so little way that at three o'clock in the afternoon she had not reached a floating light stationed about fifteen miles from Liverpool. Arrived off the light, the sea was so rough that many of the passengers were greatly alarmed, and one, who had his wife, five children, and servant on board, went down to the captain and begged him to put back. The captain answered, with an oath, that he thought there was "a deal of fear on board, and very little danger." The whole family was among the lost. The vessel drifted out of her course, and proceeded so slowly that the alarm on board became general.

One of the survivors stated that the leakage was so great that the fireman found it impossible to keep the fires up, two being actually extinguished, while the coals were so wet that it was with difficulty the others were kept in. Yet there were no attempts made to sound the well or ascertain what water was in the vessel. It was near twelve o'clock when they arrived at the mouth of the Menai Strait, about five miles from Beaumaris, and here her steam suddenly got so low that she drifted with the tide and wind towards the Dutchman's Bank, on the spit of which she struck. Now came a time of awe and consternation. The crowded boat rolled in a frightful manner, and the worst fears of the passengers seemed to be on the point of realisation. The seas broke over her on either side. The engine had previously stopped for about ten minutes, the coals being covered in water, and the pumps were choked. On her striking, the captain said, "It is only sand, and she will soon float." Only sand! More vessels have been lost on sands than ever were on rocks. In the meantime he and some of the pasengers got the jib up. No doubt he did this intending to wear her round, and bring her head to the southward, but it did not, it proved, make the least difference which way her head was turned, as she was on a lee shore, and there was no steam to work her off. The captain also ordered the passengers first to run aft, in the hope, by removing the pressure from the vessel's bow, to make her float.†

* The above account is principally derived from a "Narrative of the Loss of the *Rothsay Castle*," by Lieut. R. J. Morrison, R.N., and other sources.

† The writer has seen nearly the same thing practised on the flat-bottomed stern-wheel steamers common in some parts of America, where, in shallow water, the passengers have been required to walk to the other side of the

WRECK OF THE *ROTHSAY CASTLE.*

This failing to produce the desired effect, he then ordered them to run forward. But all these exertions were unavailing; the ill-fated vessel stuck still faster in the sands, and all gave themselves up for lost. The terror of the passengers became excessive. Several of them urged the captain to make some signal of distress, which he is said to have refused to do, telling the passengers that there was no danger, and that the packet was afloat, and *on her way*, knowing well that she was irretrievably stuck in the treacherous sands, and that she was rapidly filling from her leaks. The unfortunate man was fully aware of the imminent danger they were in, and we may charitably suppose that he made such statements to prevent a panic. The great bell was now rung, with so much violence that the tongue broke, and some of the passengers continued to strike it for some time with a stone. The bell was heard at Beaumaris, for the night was clear, with strong wind; but it was not known from whence the sound came, and no trouble appears to have been taken. The tide began to set in with great strength, and a heavy sea beat over the bank on which the steam-packet was firmly and immovably fixed. It was the duty of the captain now to make every possible exertion, by signals, to procure assistance from shore. It is said that if a light had been shown on board the unlucky steamer, the boats from upwards of twenty vessels lying at Bangor would undoubtedly have saved the larger part of the unfortunate passengers. The masts should have been cut away, not merely to ease the vessel, but to afford some chance to the poor people. At Penmaen Point an establishment of pilots had been fixed by Lord Bulkeley, for the express purpose of rendering assistance in such cases. "The world," says Lieut. Morrison, "will hardly credit the astonishing fact that their establishment is within little more than a mile and a half from the scene of wretchedness, and that, the wind being fair, the boats from thence could have reached the spot in about ten minutes. A single blue light burned, a single rocket fired, or even a solitary musket discharged, would have ensured this happy result." The evidence showed that there was nothing of the kind. Probably no sea-going steamer, carrying 150 passengers, was ever left so utterly unprovided with proper appliances.

The scene that now presented itself baffles description. A horrible death seemed to be the doom of all on board, and the females in particular uttered the most piercing shrieks. Some locked themselves in each other's arms, while others, losing all self-command, tore off their bonnets, caps, and other portions of clothing, in wild despair. The women and children gathered in a knot together, and kept embracing each other, uttering all the while the most dismal lamentations. "When tired with crying," says Morrison, "they lay against each other, with their heads reclined, like inanimate bodies. It was a few minutes before that a Liverpool Branch pilot on board, William Jones, became aware in all its extent of their dreadful situation. He is reported to have exclaimed, 'We are all lost!' which threw down whatever hopes any on board had till now entertained, and induced them to give themselves up to bitter despair. This was sadly imprudent, and little like the conduct I should have expected from such a man. He ought to have set an example of preparing something in the nature of a raft, to save what lives could be saved; and as

vessel, and literally "tip" her on that side. On one occasion in a "slough," or shallow passage, he saw a number of the passengers and crew literally step out into the water and push the boat along, till, with their exertions and the steam-power, she was got off the bank.

he must have known that it was low water, and the whole of the Dutchman's Bank was dry within a few yards of them, and the tide just setting on to it, there can be no reason to doubt that he might have been by this means instrumental in saving many of the unhappy victims as well as himself."

One of the survivors stated that after the vessel had struck several times his wife and some friends came to him, and asked if he thought they must be lost. "I thought," said he, "we should, and they proposed going to prayer for the short time we had to

THE MENAI STRAITS.

live. We all went to prayer, myself and wife in particular, and when we got from our knees I saw four men getting upon the mast, and beginning to fasten themselves to it. I told my wife I would look out for a better situation for us. I took her towards the windlass, and began to fasten a rope to the frame where the bell hung; and when I had got the rope made fast, and looked back for my wife, she had again joined our friends near to the place at which we kneeled down. A great wave almost took me overboard, but I held by the rope; then came a second and a third wave before I could see my wife again; and when I looked—they were all gone.*

"I then prepared to die myself in the place I was at, and remained in that situation

* *Vide* "Letters, &c., on the Loss of the *Rothsay Castle*." By the Rev. J. H. Stewart.

till daylight, at which time about fifty people remained on board. As the waves came the people kept decreasing, until all were gone except myself. I remained on the wreck until I saw a boat coming, which took me on board, and also rescued those on the mast, and afterwards others. We were then taken to Beaumaris, and treated with the greatest hospitality and kindness."

Another survivor, after detailing the facts preliminary to the disaster, said: "The waves broke heavily on the vessel; the chimney became loose, and first reeled to leeward, then to windward, and tumbled over with a great crash. The mainmast then went overboard, and remained hanging to the vessel by the rigging. The captain still assured us we should be saved, and that assistance would shortly arrive. I requested him to fire a gun; he said he had none on board. A small bell was then rung, but its noise would probably be lost in the roar of the wind and waves. Some of the passengers asked the captain to hoist a light; he said he had none; but we knew he had a lantern, for one of the crew took it round when he collected the checks, about half an hour before the vessel struck. The confusion occasioned by the falling of the chimney and the mast, together with the cries and shrieks of the women and children, defies description. Men were seen taking leave of their wives; wives were clinging to their husbands; and persons were running about in all directions, uttering the most piteous and heartrending cries. From the weight of the chimney, the vessel continued lying to windward, and very soon after the mast went the weather boards gave way; and as the waves then swept the deck the passengers stationed themselves on those parts of the vessel which lay highest. Several climbed up the mast which was left standing; others got on the poop. The weather boards on the leeward side were then washed away, taking with them more than thirty people, who were clinging to them. The cries were now more dreadful than before, every succeeding wave sweeping numbers from the wreck. I took a situation beside one of the paddle-boxes, and whilst there a young man came to me with a large drum, and said it would save both of us, if I held on one side and he on the other. Some females came and clung round us, but the young man stuck to the drum, and told them to get hold of the first piece of timber they could. . . . Of what further happened I have but a confused recollection, and it appears to me like the traces of a horrible dream. It seemed as if I had been in the water many days, when I heard the welcome sound of a human voice shout 'Holloa!' to which I also shouted 'Holloa!' Soon after I was lifted out of the water, and placed in a boat belonging to R. Williamson, Esq., who, when he was informed of the calamity which had befallen us, manned two boats, and came out to pick up the sufferers. On being taken up I asked my deliverers when it would be daylight, and they told me it was broad day—it was about ten o'clock in the forenoon. I was stone blind. Mr. Williamson and the boat's crew were most kind to me. I was kept on board until I was sufficiently restored to meet my sister and the other survivors at Beaumaris. I cannot omit to express my most grateful thanks to my deliverers and benefactors. Their noble humanity has left an impression on my heart which will never be effaced but with my existence."

"Amidst these almost overwhelming distresses," says the Rev. Mr. Stewart, in one of his letters to a friend, "involving in one general calamity men, women, children, and even tender infants, it is a rest to the heart to turn for a moment to some special marks

of divine mercy. I am sure, my very dear friend, the following incident, related to me by the father of the boy, will deeply affect you. He was near the helm with his child, grasping his hand, till the waves, rolling over the quarter-deck, and taking with them several persons who were standing near them, it was no longer safe to remain there. The father took his child in his hands and ran towards the shrouds, but the boy could not mount with him. He cried out, therefore, 'Father! father! do not leave me!' But finding that his son could not climb with him, and that his own life was in danger, he withdrew his hand. When the morning came, the father was conveyed on shore with some other passengers who were preserved, and as he was landing he said within himself, 'How can I see my wife without having our boy with me?' When, however, the child's earthly parent let go his hand his Heavenly Father did not leave him. He was washed off the deck, but happily clung to a part of the wreck on which some others of the passengers were floating. With them he was almost miraculously preserved. When he was landing, not knowing of his father's safety, he said, 'It is of no use to take me on shore now I have lost my father.' He was, however, carried, much exhausted, to the same house where his father had been sent, and actually placed in the same bed, unknown to either, till they were clasped in each other's arms."

Among the victims was that of a lady entirely *unknown*. The body of this poor creature had been picked up near Conway, and it was evident that she had been one of fortune's favourites, though destined to a death so cruel. She was elegantly and fashionably attired, wearing rich earrings, gold chain and locket, three valuable rings in addition to her wedding-ring, and so forth. In a day or two she was buried in a common deal shell, and followed to a nameless grave by strangers.

It appears, by the pilot's statement, that early in the afternoon he had been invited by the steward to take some refreshment with him, and in the course of conversation a very strong opinion was given by the steward that Captain Atkinson never *intended* to reach Beaumaris, and that the voyage he was now making would be his last. By the expression "intended" he explained was meant *expected*, and the result proved the opinion to be too fatally correct. Tired by what he had gone through before entering the packet, the pilot lay down in the forecastle to sleep. He was aroused by a sensation beyond all others most dreadful—he felt the vessel strike, and his experience told him all was over. Hastily rushing upon deck, his courage and coolness were for a moment quite overcome. "I saw," said he, "the quality huddled together in the waist of the vessel; and the praying and crying was the most dreadful sight to witness. The waves broke over on both sides, and took away numbers at once. They went like flights, sometimes many, sometimes few; at last the bulwark went, and none were left."

The vessel had scarcely struck when the two stays of the chimney broke. These, after many ineffectual efforts, were again made fast; but they soon gave way a second time, and the chimney fell across the deck, bringing the mainmast with it. The mast, it is stated, fell aft along the lee or larboard side of the quarter deck, and struck overboard some of the unfortunate creatures who had there collected. The steward of the vessel and his wife lashed themselves to the mast, determined to spend their last moments in each other's arms. Several husbands and wives seem to have met their fate together, whilst

parents clung to their little ones. Several mothers, it is said, perished with their little ones clasped in their arms. The carpenter and his wife were seen embracing each other and their child in the extreme of agony. The poor woman asked a young man, Henry Hammond, to pull her cloak over her shoulders, when a tremendous wave came and washed off, in a moment, twelve persons, and her among them.

Soon after the crash the captain's voice was heard for the last time. He and the mate appear to have been the very first that perished, and the conclusion is that they must have been dragged overboard by the wreck of the mainmast. It is true that an absurd report was spread in Beaumaris that both captain and mate reached land safely in the boat, part of which was found on shore early in the morning. This is unlikely; but it is quite possible many lives might have been saved in the boat, *if she had been provided with oars.* The absence of these, however, shows in a glaring manner the utter recklessness of human life which marked the whole affair. It was stated by Mr. Henry Hammond, ship-carver, of Liverpool, one of the persons saved, that it was not true that a party of the passengers got into the boat soon after the vessel struck, and were immediately swamped. The statement he gave was that the boat was hanging by the davits over the stern, nearly filled with water in consequence of the spray; when the vessel struck, he and the wife and child of the carpenter got into the boat, but left it again, being ordered out by the mate, who told them it was of no use, as no boat could live in such a sea. The boat soon after broke adrift and was lost, but there was no person in her.

"For above a mile and a half to the spit-buoy in the Friar's Road," says Morrison, "the sand is dry at half ebb, and as the Dutchman's Bank is dry at low water, I have no hesitation in affirming that there was dry land within half a mile of the wreck when she struck; and that if they had *been informed* of the fact, many of them on board might have swam or been drifted over the Swash, and within two hundred yards of the vessel would have found themselves in not more than three or four feet of water."

The Swash is but a few feet wide, and was easily passed by one individual, who, being a resident in Bangor, knew the locality, and escaped, according to Mr. Whittaker's narrative, who states as follows:—"At this time a gentleman from Bangor left the vessel, with a small barrel tied beneath his chin, and an umbrella in his hand, which he unfurled when he got into the water, in the hope of being drifted ashore in time to send some aid to his fellow-sufferers." This was Mr. Jones of Bangor. Now, if Mr. Jones, the pilot, or the captain or mate, or any other person on board, who knew of the vicinity of the dry sand, on which people walk at low water, had explained to the persons who could swim the state of the case, many others might have been saved as well as Mr. Jones.

A Mr. Tarry, who was exceedingly apprehensive during the passage, kept his wife and children in the cabin; on the vessel striking he made immediate inquiries respecting their probable fate; and Jones, the pilot, having indiscreetly said that there was no hope of safety, he became at once calm, and said in a tone of resignation, "I brought out my family, and to return without them would be worse than death; I'll, therefore, die with them." He then went down into the cabin and embraced his wife and children. It would appear that they afterwards, impelled by a sense of self-preservation,

came on deck; one at least of his little girls was seen afterwards in a state of pitiable helplessness. Mr. Duckworth, of Bury, who survived the catastrophe, says that while sustaining his wife he saw her on the quarter-deck. She was about ten years old. Each wave that broke down on one side of the vessel hurled her along with impetuous force, and dashed her against the gunwale on the other side; and then it would recede, and draw her back again, a ready victim for another similar shock. The poor innocent, bruised and half choked with the waves, sent forth the most piteous cries for her father and mother between each rush of the waters. Her shrieks were piercing beyond description, and she screamed "Oh! won't you come to me, father? Oh, mamma!" &c., till the narrator says his heart yearned to save her; and though he dared not quit his wife, he called to a fellow-passenger to make the effort; but he believes she was washed away soon afterwards.

"A schooner, belonging to a nephew of Alderman Wright, was lying off Beaumaris Green; the persons on board heard the bell ring in the *Rothsay Castle*, but in consequence of no light being displayed, which the captain refused to allow, they could not tell in what direction to go to render assistance. They eventually saved several persons who had been seven hours in the water. Such was the state of anxiety of the poor creatures, who had been so long hanging to the wreck, that they imagined, when taken up at seven o'clock in the morning, that it was noon."

Lieutenant Morrison speaks highly of the humanity and honesty of the Welshmen of the coast on which the unfortunate vessel was wrecked, and contrasts their conduct with that of the people of certain other places. He remembered, in the year 1816, witnessing the wreck of a vessel near Appledore, in the Bay of Barnstaple, when the country people came down in crowds to plunder the wreck, and they drove the poor seamen back into the surf when they attempted to rescue a part of their property. In the winter of 1827 he recalled the case of a crowd surrounding the mate of a Welsh sloop wrecked on the coast of Waterford, whom they knocked down and robbed of a small bundle of clothes, all that he had saved from the wreck.

The wreck about to be described occurred in January, 1838, and has been recorded in a graphic though somewhat verbose pamphlet,* which it is very unlikely has reached the eyes of many of our readers. It has often struck the writer that the most fascinating and interesting descriptions of wrecks have not been written by sailors, and there is a sufficient reason for this. Many of the episodes which strike a landsman forcibly, and add greatly to the picturesque *ensemble* of his narration, are taken by the seaman as mere matters of course. Several of the more detailed and interesting narratives already given have been taken from accounts recorded by the members of other professions, clergymen and military men more particularly. The present account is compiled from the narrative furnished by a medical man.

The *Killarney* sailed from Cork on the 19th January of the above year, with about fifty on board, passengers and crew. The weather was very severe, the wind blowing hard from the east, accompanied by snow and hail squalls; and the captain, after vainly endeavouring to make headway, turned the vessel round and returned to Cove Harbour. The weather

* "Narrative of the Wreck of the Steamer *Killarney*," &c. By Baron Spolasco, M.D., &c., &c.

moderating, the *Killarney* again got under weigh for her port of destination, Bristol. Again a storm rose, and the mist became so dense that they could scarcely see the vessel's length ahead of them. During the night 150 pigs—about a fourth of the number on the vessel—were washed overboard; the cabin was a wreck of furniture and crockery; and Dr. Spolasco's gig had been forced from its lashings, broken up, and partly washed away. The engine stopped for some time, and the vessel lay to, the captain not knowing his position. A suspicious circumstance, showing that the men were disheartened and greatly fatigued,

BEAUMARIS.

was that they came down to the cabin and asked for bottles of porter, &c.—a most unusual request, of course. Lieut. Nicolay, a military passenger, remarked, "I don't like to see these men getting porter in this way; I was once at sea in great danger, and the sailors through desperation commenced to drink." If the sailors were doubtful of the vessel's safety, there can be little wonder that the passengers generally were in a state of grave alarm. Baron Spolasco had his boy, a helpless child of nine years of age, on board, and between his care, giving advice to passengers, and setting the leg of the under-steward, who had broken it in a violent fall caused by the lurching of the ship, he had enough to do. At noon of Saturday it was whispered that the captain intended to try for land, but no one on board appeared to know whether they were twenty or fifty miles from it. The weather increased in severity.

In these trying moments, the captain, mate, and crew, endeavoured to perform their duties, and used every exertion in their power to weather the dreadful storm; but the water gained incessantly on the pumps, and the vessel continued to fill, and, being almost on her broadside, the deck was nearly perpendicular. The sea broke over her continually, and the passengers crawled about on hands and knees. Spolasco inquired of M'Arthur, the chief engineer, entreating him to let him know how the water stood in the engine-room. He seemed much exhausted, and said, "We're getting the water down to the plates of the engines; the fires are re-kindled, and we'll soon have steam on." For a time this was successfully done.

Lieut. Nicolay was the first to announce "Land at last!" to the passengers, and all hearts beat with joy at the welcome news. But they were greatly puzzled, and indeed mortified, that they were unable to ascertain what land it was. Some said that it was Poor Head, others that it was Kinsale, and others that it was Youghal, and others again that it was Cork Harbour. But the vessel was now utterly unmanageable.

The captain again did his best to re-make Cork Harbour, but it was out of his power, the sails having been blown to ribbons, and the fires put out owing to the repeated shipping of the seas. The engines went on pretty well when they commenced working a second time, but they shortly became less and less powerful from the cause just assigned. About three o'clock in the afternoon she had drifted near some rocks, the vessel being then nearly on her beam ends. It was all that the passengers or crew could do to hold on the bulwarks or ropes, and from the terror depicted on every countenance it was evident that the crisis was at hand. The vessel struck, and a simultaneous thrill of horror passed through every breast. Two gentlemen were, it was believed, washed overboard at this time.

A heavy sea then struck abaft the paddle-box, carrying off all before it. The doctor descried poor Nicolay on the top of a wave, like a mountain over them, as it were riding on, and buffeting in vain with his gigantic enemy. An awful and terrific scene was witnessed while grasping his child and the companion. "I believe," says he, "it was the same sea, or one instantaneously succeeding it, that struck the companion, and carried me and my dear little charge across the deck. Had it not been for the remnant of the bulwarks, viz., two uprights, across which a deck-form was forced, which proved the simple means of saving our lives at that period—were it not for this circumstance, my child and myself must have perished with Nicolay and others. Several fragments of deck-rigging fell upon us—such as ropes, spars, splinters, &c.; and it was with the utmost difficulty that I was enabled to extricate myself and child from them, in doing which I lost a shoe. It is worthy of remark that I had not worn shoes for more than six months before, having put them on that morning, considering that they would contribute to my ease while on board. My little boy also lost a shoe and cap owing to this circumstance. I now ought to remark, before I proceed further with this painful narrative, that immediately, or rather before, the engines stopped the second time from the vessel filling with water, the engineers and firemen came upon deck, from the impossibility of their remaining any longer below, the steam gradually going down, and the engines consequently decreasing in power till they came to a stand. All further efforts on their part being unavailing, and destruction being inevitable, all rushed upon deck, leaving the engines in order to save their lives."

Matters for some time continuing thus, the sailors and some of the deck passengers exerted themselves, and were engaged in endeavouring with buckets to lighten the vessel of some of the water in the hold; and, after several hours' hard work, they so far succeeded (the pumps all the while kept going) as to be able early on Saturday afternoon to get up steam again.

A passenger pointed out a bay, which he said was Roberts' Cove, and recommended the captain to run the vessel in there, as there was a boat harbour in it, and beach her. The captain said that he did not think there was a harbour there—that, at all events, it would be impossible to make it. The vessel was all this time drifting nearer the rock on which she ultimately struck; and in about an hour after the passenger had given the recommendation alluded to, the captain got the vessel round, and endeavoured to make Roberts' Cove. Just as he had got her before the wind, however, she was pooped by a tremendous sea, which carried away the taffrail, staunchions, the wheel (and two men who worked it), the companion, the binnacle, and the breakwater. The two steersmen fortunately caught part of the rigging, and were saved; but the sea which did the damage carried away the bulwarks, with some of the steerage passengers, who were standing near the funnel, and cleared the deck of all the pigs that were on it.

In consequence of all the hands having endeavoured to save themselves, the vessel was left to herself, and continued to strike piecemeal on several minor rocks, as she was driven before the fury of the waves over them with a clap—a crash resembling thunder—carrying off at each stroke one or more human beings, together with some portion of deck, deck furniture, deck trimmings, rigging, &c. To hear the wrenching of the vessel, now between the roaring billows and the rock, together with the cries of the sufferers, was soul-piercing in the extreme.

It was absurd to think, even for a moment, of lowering the quarter-boats, the tempest raged so furiously. Previously to the vessel striking on the rock which rent her asunder, and upon which she went to pieces, passengers and seamen all ran up for self-preservation on the quarter-deck. A terrible rush was then made for this, their last resource; and catching his child, Doctor Spolasco held him in his arms, and he clung close round his neck with all the strength of his little embrace, looking imploringly in his face for protection, and, as if foreseeing his fate, said, "Papa, kiss me! Papa, kiss me! We are all lost!"

The last moment approached. The crisis was at hand. Struggling on with his beloved charge, the doctor sprang forward with him, clasping him closely to his breast, and, creeping on his hand and knees, dragged his child along under one arm, while he held by the fragments of the bulwarks, shifting his hand from splinter to splinter, until he slowly and gradually reached the stern, the heavens lowering, the tempest raging, and the billows washing over them, drenched to the skin, and every instant gasping for breath, the waves suffocating them, the billows every instant beating against them.

Some time previously to this both passengers and crew knew not how to act or what to attempt to secure their safety, such was the distraction of their minds. The direction of the vessel was no longer thought of or attended to; each individual holding on by anything that he could possibly grasp for temporary safety with one hand, while he was seen

pulling off his clothes with the other, in readiness to be freed from the encumbrance of them, that he might be enabled to make a last, a desperate effort to swim ashore.

This was indeed a struggle for life and death, but bordering so nearly on the latter; some dressing again, and again undressing; again hesitating, frantic and desperate, till not another moment was left for deliberation. 'Crash! crash! crash! came in awful

ENTRANCE TO CORK HARBOUR.

quick succession, mingled with the piteous, the soul-harrowing cries, "For pity's sake, help! help! help!"

More than half an hour previously to the vessel's striking on that Saturday, between three and four in the afternoon, although instantly expecting to go down, ten or twelve persons were seen on the neighbouring mountainous promontory, and it afforded them some glimmering of satisfaction—some faint ray of hope that they would not perish in sight of land. They were observed as early as three o'clock on Saturday, but no efforts were made to rescue them till long after. A part of them gained the rock on which the vessel struck previously to the night's setting in, where they remained all Sunday and part of Monday, wet, cold, and nearly starved.

"I desired my child," says Spolasco, "as he loved me, to cling close, while I went to render assistance to others, who were loudly imploring for aid. The darling child, who was evidently sick and exhausted, obeyed; and I, alas! trusted to his puny strength to hold on.

"I sat for a moment on the rock, kissing him, till I looked round and reflected on the awful scene before me, and beheld (with what emotion I leave you to guess) the dreadful destruction which was going on.

"Previously to my jumping on the rock I observed Mrs. Lawe on the quarter-deck on her knees, frantic, without her cap, her hair dishevelled all around her shoulders, in dreadful anguish, striking the deck with one hand, while she held on with the other. Mr. Lawe, her husband, was at this time drowned.

"About this period the midships of the vessel were thrown by the terrific sea and raging storm into a position favourable for those yet on board to make their escape upon the rock; thus it was with comparative ease the surviving remnant on board now forsook the vessel.

"In short, if the sufferers could have anticipated and waited for this opportunity, the lives of many who were lost might have been saved. They would, at least, have been fortunate enough to have reached the rock, and would have had the same chance of existence as others, provided their constitution were sufficiently strong to bear the dreadful privations that there awaited them.

"I stretched forth my hand and assisted several as they approached, taking hold of the first that presented, making, of course, no distinction of persons, and continued to act thus till I saw a female in the last gasp, still holding by the rock after the receding of a wave—it was Mrs. Lawe. Then, with all the force I could command, I dragged her forwards one or two paces. She was, indeed, poor good lady! in the last stage of exhaustion, and fell on my arm, and her weight caused me to slip, by which we were both precipitated towards a frightful chasm; but luckily I again seized the rock ere the wave retired, or we might both have been swept away, and I held fast by one hand, while with the other I supported the lady, during which two or three waves washed over us. Neither she nor I could breathe.

"I collected all my remaining strength for this the last effort I was equal to in order to save her, and folding her in my arms, I crept up the rock quite above the surge, where the spray only could reach us.

"She was speechless, but sufficiently sensible to acknowledge my attention with looks of fervent gratitude. I then left her, anxious to return to my child. But judge of my sensations—I found him not! He, alas! was gone! I could not tell where, or what had become of him." The poor boy had been drowned, and no traces of him were ever discovered.

Their sufferings on the rock are well described:—"To such dreadful shifts were we driven that during the night I was obliged to hold on with one hand, while with the other I grasped the hand of a fellow-sufferer, in order that each might receive some portion of vital heat; this we did alternately with right and left hand. But we were all so depressed in spirits and suffering so grievously from the cold and the rain as the night advanced, that we did little else than turn our thoughts to the Most High, and calmly await the approach of day, and with it some hope of relief. My face, nose, and particularly the inside of my mouth, were dreadfully mangled, and my teeth loosened, being so repeatedly forced by the billows against the rock to which I was clinging. In short, I think no human endurance equalled ours; for towards morning, when my fingers became so benumbed from wet and cold that I lost the use of them, and I found that it was impossible to hold on longer, I twice felt resigned to

commit myself to the deep, and was on the point of doing so, invoking Heaven to receive my spirit.

"The very lacerated state of my nose, mouth, and feet," says the doctor, "when I was borne from the rock, were indicative of the sufferings I had endured. Poor M'Arthur seemed either quite regardless of, or insensible to, my repeated warnings of his danger. He at last put his hands into the pockets of his trousers, in spite of my remonstrances to the contrary. The point of the rock on which he stood affording him a better foothold, or standing, than mine, and that portion of the rock immediately before him not being so perpendicular as that before me, allowed him to bend forward. This last advantage, coupled with that of his better footing and his being overpowered with sleep, induced him to be so careless of his safety. But almost instantly a fearful and tremendous sea struck the rock just below the slight shelves or openings which supported our toes, and immediately rebounded over us many feet in height; then breaking and falling with great force on our heads, it had the effect of hurling off on the instant poor M'Arthur. O gracious God, I never can be sufficiently grateful for Thy bountiful goodness and singular preservation in protecting me through so many imminent perils, so many hair-breadth escapes! For of all the passengers with whom I dined on Friday in the steamer *Killarney* I am the only survivor! The cook who prepared the dinner, and the steward, steward's brother, and the stewardess that served it, are all in eternity!"

It was not till about ten o'clock on the morning of Sunday that the poor sufferers on the rock endeavoured to change their positions, which was a matter of some difficulty. One of the passengers, during the early part of the night, having been unable to attain a position as comfortable as that of some of the rest, had hung on to Dr. Spolasco's legs, in order to save himself from dropping into the sea. Later a heavy wave struck him; he relinquished his hold, and was swept into the sea never to rise again. "On gaining the summit," says the doctor, "I perceived with horror that many had disappeared during the night, and among them the lady whom I had rescued at the loss, I may indeed fairly say, of my dear boy." There was a general hope among the survivors that they would be rescued early that morning (Sunday), and their disappointment that no effort was made to save them was great indeed. They saw at an early hour hundreds of peasants on the beach and cliff, some of them busily engaged at the wreckage or in bearing away parts of the pigs which had formed part of the cargo, but all intent upon gain. Not the slightest effort was made for the poor wretches on the rock, although Spolasco at intervals waved his purse in one hand and his cap in another in order to induce the peasantry to afford assistance.

The doctor endeavoured by signs to indicate that a raft could be easily constructed from the wreckage, and that the drift of the current would bring it to the rock, but he was not understood. Again their hopes fell to zero. Poor M'Arthur, the engineer, who had been nearly drowned before, had managed to struggle to a higher position on the rock, but he died from exhaustion early on Monday morning. Some time after, two men, and a little later two boys, fell headlong into the sea, being nearly dead from starvation and exposure. Of twenty-five who got safely on the rock, thirteen died before they could be rescued; and yet it was so near the coast that those mounting the

nearest cliff had to bend over its edge to see it. Meantime the storm beat on violently, and no boat could have approached the rock. Sea-weed and salt water was all the food (!) they could get from dinner hour on board the steamer on Friday, about five o'clock, till Monday afternoon. All this within almost a stone's throw of land!

"To return," says the narrator, "to Sunday. I have in a previous page stated that during the whole of the morning of that day, indeed up to the afternoon, all we saw was a crowd of peasants on the beach, each carrying his or her burden from the spoils of the wreck of the steamer *Killarney;* and on the cliff above us, numbers—altogether amounting to some hundreds. It was in vain we looked for some respectable person among them who would be likely to tender us the desired assistance, till . . . we hailed the presence of a respectable gentleman, by whose kind gestures we could understand (for it was impossible to hear his voice) that we yet should be saved. After waving his hat, and doing all in his power to cheer us, he retired, and ascended the lofty cliff, and in a reasonable time afterwards again returned, with several other gentlemen.

"Several descended with him to the edge of the precipice—a dangerous declivity—bringing with them ropes, slings, &c., and indeed every other requisite that the short period of their absence allowed them to procure, or whatever appeared to them necessary for the object they had in view. Having arrived at the brink of the precipice, somewhat in a direct line (though still above us) with the rock upon which we were—the distance I would compute to be from a hundred and fifty to two hundred feet—they commenced throwing stones to which were attached small lines, several in their turn; one having failed, another tried, and so on, till they were sufficiently convinced that all such efforts were altogether fruitless—the strongest of them not being able to pitch the stones more than half way towards us.

"Some one then suggested the propriety of trying slings, which they immediately prepared—in turn taking off their cloaks, coats, &c., having first tied round their waist a strong rope as a prudent precaution of security for their safety in making the bold attempt, viz., of slinging a stone, having attached to it a line, to us unfortunate expectants upon the rock. These efforts, too, like the former, were attended with want of success.

"Mr. John Galwey, with whom was Mr. Edward Hull and other gentlemen, apparently in a most perilous position confronting us, formed a footing with crowbars, &c. Mr. Galwey was then observed several times to try to pass a duck with a small line fastened to its leg, but without effect. We also discerned him coiling a wire or line into the barrel of a musquet, with the view of firing off the ball to which it was connected, hoping that when the ball should have passed the rock the line might fall upon it. This expedient too was ingenious, but unsuccessful.

"The next attempt for our rescue was thought of and entered upon by a brave young gentleman, Richard Knolles, Esq.—son of the worthy Captain Knolles of that neighbourhood—by which he nearly lost his life. He had with him a favourite dog, well trained to the water, and apparently to his command, with which fine animal he descended as nearly to the edge of the beach as the billows, breakers, and foaming spray would allow him, and rather farther, for, being young, brave, and anxious to be the means of saving us, he ventured somewhat too far for his safety, being met by a tremendous surf, which struck him, and dashed him above some twenty feet or more with such violence, that he was not only wetted to

the skin, but had the narrowest escape that man could well have of being lashed into the furious sea and yawning gulf below him."

The news of their cruel sufferings having ere this spread around the country—this being Sunday, and rather more favourable than the previous days—thousands of both sexes assembled from miles around to witness the awful scene. They could clearly distinguish among the vast assemblage upon the cliffs a great number of ladies by their veils, drapery, &c., who doubtless had been attracted to the fatal spot through sympathy for their peculiar hardships. The shore appeared so near, and the day was so fine, that through the greater part of it they did not think, nor could bring themselves to believe it possible, that

THE SURVIVORS ON THE ROCK.

they were cruelly doomed to suffer another night upon the desolate rock; and it was thought by some (seeing that the distance to the cliff on the mainland was not very great) that a brave plunge into the waves would bear them on shore.

Hunger was keen indeed; it was piercing; and perceiving the people upon the cliff apparently unable to give them relief, one resolute but unfortunate man volunteered, and attempted to swim to shore, and, creeping down the rock, bade them farewell. They wished him, with all their hearts, success, each meaning to follow his example, if successful, rather than remain to perish on the rock. He rushed boldly into the surf; they all awaited his re-appearance with breathless anxiety, but he was rapidly hurried into the deep below, and they could discern him no more. All such attempts, or hope of such, to gain the shore by these means were then abandoned.

The second night was now closing fast upon them, and having observed that some preparations were being made on shore to extend ropes from promontory to promontory—a distance of from half a mile to a mile—they were all hovering between hope and fear. A

deathless silence reigned among them. Their gallant captain at length exclaimed, "I have it! They are carrying one end of the line to you jutting promontory (east), and are running with the other end to the other promontory (west); the two ends of the line being drawn tight in opposite directions, the centre will overhang the rock, and be within our reach." As the sequel proved, his judgment was well founded.

"We now," says the narrator, "placed our whole reliance on the success of the efforts of those on shore with the ropes; but the apparatus employed was imperfect—time passing rapidly, and the night quickly approaching. Just at the commencement of dusk the rope reached us, which we were enabled to seize by a small tripping line that hung pendent from it when it was stretched over our heads, being drawn tight at each promontory by the many assembled." The captain, or some one of the men, caught the line and drew it downwards, when all seized it, and there was a wild huzza! The captain had been right in his conjecture. The line was extended from headland to headland.

"When the rope was conveyed to us," writes the doctor, "we all cheered, as if re-animated by a new existence; and although it reached us too late to be of any service on that night, such was our eagerness to be delivered from the rock, that one man volunteered, and immediately descended to the base of it, and by a triangular knot made himself fast to the hawser, which had been conveyed to us by means of the small lines already alluded to. The rope, or hawser, although not a new one, I think was sufficiently strong to bear one at a time to shore, and, indeed, up the lofty cliff, in safety; but a boy who had been in care of the pigs, unfortunately, through over-anxiety to escape from the rock, descended, and most imprudently attached himself also at the same time to it, notwithstanding our earnest remonstrances to the contrary; and when they said 'all was ready'—meaning that they were secured to the rope—at the same time directing us to shout to those on the mainland 'to pull them ashore,' we did so, and they immediately drew them towards the cliff, upon which we heard a splash, but could see nothing, it being at this time dark.

"During the night, when we occasionally conversed—for we had but little to say, each being wrapped up in his own gloomy meditations—we felt a glow of satisfaction that at last a contrivance had been resorted to by which two of us at least were rescued from spending another night upon the rock, we not at this time at all considering that both had met a watery grave, for we could see nothing—it was dark—neither could we hear anything, from the howling of the storm and roaring of the tempest.

"In the morning, however, in consequence of the rope having broken, we entertained a melancholy surmise of their unhappy fate; but upon landing, in the afternoon of Monday, we ascertained the piteous fact. It was rumoured, but it proved to be untrue, that the peasants, during the second night (Sunday) of our dreadful suspense upon the rock, had cut the rope. This arose in consequence of its having been found divided early on Monday morning."

Next morning the good Samaritans ashore repaired to the scene, and eagerly scanned the rock, to see whether any still survived. Among them was Lady Roberts, who came with thirty of her men, with a car laden with ropes and other materials necessary for their deliverance. The first plan attempted early on Monday morning was with Manby's apparatus—*i.e.*, firing a two-pound shot with a line attached from a howitzer. After

many fruitless attempts this plan was relinquished. Slings, &c., were then tried, but with the same result.

Dr. Spolasco took off his cap, and repeatedly waved it, in order to attract the observation of those on shore. Having succeeded, he raised his voice and extended his arms, pointing to either promontory, and indicating that unless they had recourse to Mr. Hull's plan, as it was subsequently ascertained to be, their fate would be decided. Fortunately he was understood, and the plan was prosecuted to its completion, all working with a will. They again extended the lines from headland to headland, with this variation only, that they now attached two tripping-lines instead of one, hanging about a yard apart, and a weight to the end of each, which had the desired effect of causing them to fall immediately over the rock. They were immediately grasped; their hope of safety was fully revived, and they again cheered with hopeful exultation. They retained a secure hold of the centre of the line, while those upon the two cliffs proceeded to a centre point on the mainland immediately opposite to them, and instantly attached the hawser to one end of the line in question. Having accomplished this, they made signs to those on the rock to draw towards them the hawser, to which they had fastened a small basket containing a bottle of wine, a bottle of whisky, and some bread, the thoughtful gift of Lady Roberts. The liquids proved invaluable, but as for the bread, excepting a few crumbs, they could not swallow it. They had, from cold, exposure, and exhaustion, almost lost the power of mastication and deglutition.

The basket also contained a written paper, instructing those on the rock that, as the hawser was sufficiently long, to make it fast round the rock, that it might be the more secure, and that they would pass a cot along it with iron grummets. Having so fixed the cot, the signals were made to draw it towards the rock by means of the small line. The awful example afforded on Monday morning, when it was perceived that the rope was broken, naturally made several of them nervous now, and there was some hesitation as to who should enter it first to be drawn on shore, seeing that it had to be hauled a distance of sixty to a hundred feet above the level of the sea in order to land upon the lowest accessible part of the cliff, where Mr. Hull, the inventor of the plan, was stationed to receive them. On landing, they had to be carried to the summit of the nearly perpendicular cliff, about 300 feet, upon men's backs, supported on either side by others of their deliverers, for the least false step would have hurried them headlong to the depths below.

After some deliberation, the first to be placed in the cot was a woman named Mary Leary, who was assisted into it, and drawn through the air to what seemed a frightful height, amid the cheers of all. On her being landed, the cot was again lowered to the rock, and the narrator of our story entered it, lying upon his back. Giving the signal that he was ready, those on the mainland pulled, and in a few minutes he was safe on the cliff, where he received the warm congratulations of the gentlemen there assembled. The ship's carpenter, who was evidently very ill, was next placed in the cot, but the poor fellow breathed his last almost immediately after landing. The others soon followed, the captain, as should be, being the last. Once ashore, they were treated with warm-hearted hospitality, and a liberal subscription was raised for the sufferers of the crew and passengers, and the widows and orphans of those who were

lost. Of fifty persons who left Cork on the ill-fated *Killarney*, about twenty-five landed on the rock, and of these only fourteen reached land, one of them, as we have seen, to expire immediately.

The mode by which the few survivors were rescued was so novel that it deserves particular notice, and the following, quoted from a letter written by Mr. E. W. Hull to Baron Spolasco, will be found interesting.

"The first intelligence my brother and myself received of the wreck was from Mr. John Galwey, at about nine or ten o'clock on Sunday morning. We immediately proceeded towards the scene of the dreadful catastrophe, which is about five miles from Roberts' Cove, and arrived there at eleven o'clock. My brother's men, of course, accompanied us. On our reaching the place, I descended the frightful precipice, at the foot of which I discovered Mr. Galwey letting ducks fly with lines attached to them. I joined him in the experiment, though indeed I entertained not the least hope of its proving effective. We abandoned this plan, and having taken off my coat and hat, and placed a rope round my waist, to prevent my falling over the lower cliff upon which we stood, I commenced using all the means I could devise to convey a stone with a line attached to it to the rock. I first made an effort to throw a stone from my hand; next, I, with others, had recourse to slings; but all our experiments, as the sequel proved, were useless. I may here, without the least exaggeration, assert that the danger to which Mr. John Galwey, young Mr. Knolles, and myself, were exposed was beyond the power of conception. Below us appeared a hideous gulf, almost yawning to receive us from the cliff upon which we stood, while from above we saw large stones rolling down from a height of two hundred feet. To avoid being struck by these we had not the power of moving an inch from the place in which we respectively stood; so that in this, as in all other circumstances connected with our dangerous undertakings on the occasion, we were protected in our frightful situation by the peculiar interposition of Providence. We next had recourse to the plan of a person named Mills, of the Coastguard at Roberts' Cove. It was that of attaching wire to bullets, and firing them from guns. This plan likewise proved unsuccessful.

"At this time, when all our plans had become unavailing, those who had been acting with me below went to the top of the cliff. Being exceedingly exhausted I was unable to follow. I lay down on the brink of the precipice, nearly on a line with the top of the rock upon which the sufferers were, and feeling as a human being should at so heart-rending a spectacle, when all hope of saving a single individual was almost extinct. I exclaimed, 'Good God! are there no means left to save them?' At this moment I took a view of the east promontory and the west. The thought—the happy thought—flashed across my mind. I immediately perceived that Providence favoured us with a tolerable certainty of success. I ascended the precipice, and made my brother acquainted with my plan. We both suggested it to others, but it was disregarded, owing to the great distance between the promontories and the immense height of the cliffs. However, I saw a glorious prospect before me of rescuing my fellow-creatures from an awful death. Heaven inspired me with confidence, and, in conjunction with my brother, I could not be diverted from making a trial. My brother and the neighbouring gentlemen sent in all directions for lines and ropes. On getting them, we commenced putting my plan into execution. The first attempt failed through want of sufficiency of rope and the setting in of night. When the rope was

RESCUE OF THE SURVIVORS OF THE "KILLARNEY."

carried to the rock and secured, I saw that one man got upon it. Had he alone ventured, all would have been right; but the eagerness of another poor fellow was so great that he attached himself to it, and the weight of the two was overmuch for the rope to bear, and it consequently broke. How we felt at this dreadful occurrence your readers may imagine; I cannot describe the fearful thrill of horror which pervaded every breast. It was now dark night; we had therefore to discontinue our efforts until the next morning. We left the lines during the intervening night as we had adjusted them the evening before. My brother left two of his men, with one of Lieutenant Charlesson's, to preserve the rope and property during the night.

"To return to the subject of my communication, I should state that, on ascending the cliff I met Lady Roberts and Captain Knolles. I told them of the loss of one man, not knowing at the time that a second had also suffered—this information, indeed, I afterwards received from yourself. I, notwithstanding this sad disaster, felt persuaded that if I had a sufficient quantity of rope all would be saved. I mentioned this to Lady Roberts, upon which her ladyship assured me that I should be plentifully supplied with this article. Though painful to our feelings to be obliged to leave you to spend another night of gloom and horror, we were under the necessity of doing so for want of a sufficient quantity of rope. On the following morning (Monday) I arrived at the cliff, accompanied by my brother and his men, an hour before daylight. The weather was dreadful beyond conception, rain and snow falling incessantly. We immediately proceeded to bring into operation the plan of the former day. We were at this time much better enabled to do so, having obtained a sufficiency of rope by the directions of Lady Roberts, who, to the honour of her sex, was present at that early hour, exposed to the inclemency of the weather. Lieutenant Irwin, Inspector of the Coastguard at Kinsale, arrived about this time with Captain Manby's apparatus. This gentleman, having, I presume, had some previous experience of the capability of similar machines, commenced discharging balls from it. This suspended the operation of my plan for some time, but it was found altogether ineffective; but I consider it right to state that no man could have manifested a greater anxiety than Mr. Irwin to do good. The lines and ropes which he brought us were essentially necessary in putting the successful plan into execution; he also brought the cot. . . . .

"In about two hours I had the satisfaction of seeing fourteen persons safely landed from the rock, but one of them, I regret to say, died of exhaustion a short time after having been brought on shore.

"The hawser, as you perceived, had to be taken down a precipice of nearly three hundred feet. To the end of it was joined the line which you had primarily received upon the rock, also a basket of refreshments. I myself took it all down to the lower cliff, where I received each person on being drawn from the rock. The dangers to which myself and three of the coastguard were exposed on that occasion were not, I assure you, trifling."

About a fortnight after the wreck of the *Killarney*, a large portion of the rock upon which the remnant of the crew and passengers had suffered so much was carried away in a storm. It is worthy of remark that during the American War a vessel conveying a company and band of the 32nd Regiment of Foot was lost on the same rock, when all perished.

There can be no doubt that a life-boat, had there been one, would have rescued many more of the poor unfortunates, left on the rock from Friday afternoon to Monday afternoon, with considerable ease. During the year 1876–77, not very far from *five thousand* lives were saved by the fleet of 269 boats of the National Life-boat Institution. Let us examine the wreck record of that period.*

We find that the number of British vessels which entered and cleared from ports of the United Kingdom during the year in question was 581,099, representing the enormous tonnage of 101,799,050. Of these ships, 224,669 were steamers, having a tonnage of about two-thirds of the above amount. During the same period 60,000 foreign vessels entered inwards and cleared outwards from British ports, representing a tonnage of nearly 20,000,000. These 641,099 ships, British and foreign, had probably on board, *apart from passengers*, 4,000,000 men and boys.

In 1876–77 the number of wrecks, casualties, and collisions, from all causes, on and near the coasts of the United Kingdom, was 4,164, which number exceeds that of the previous year by 407. 511 cases out of this large number involved total loss, 502 and 472 representing the same class of calamities for the two preceding years.

During twenty years—from 1857 to 1876–77—the number of shipwrecks on our coasts alone averaged 1,948 a year, representing in money value millions upon millions sterling in the aggregate.

"In making this statement," says *The Life-boat*, "we lay aside entirely the thousands of precious lives, on which no money value could be placed, which were sacrificed on such disastrous occasions, and which would have been enormously increased in the absence of the determined and gallant services of the life-boats of the National Life-boat Institution.

"In the Abstract of the Wreck Register it is stated that, between 1861 and 1876–77, the number of ships, both British and foreign, wrecked on our coasts which were attended with loss of life was 2,784, causing the loss of 13,098 persons. In 1876–77, loss of life took place in one out of every twenty-two shipwrecks on our coasts.

"It is hardly necessary to say that gales of wind are the prime causes of most shipwrecks, and that those of 1876–77 will long be remembered for their violence and destructive character. Of the 4,164 wrecks, casualties, and collisions, reported as having occurred on and near the coasts of the United Kingdom during the year 1876–77, we find that the total comprised 5,017 vessels. Thus, the number of ships in 1876–77 is more than the total in 1875–76 by 463. The number of ships reported is in excess of the casualties reported, because in cases of collision two or more ships are involved in one casualty. Thus, 847 were collisions, and 3,317 were wrecks and casualties other than collisions. Of these latter casualties, 446 were wrecks, &c., resulting in total loss, 902 were casualties resulting in serious damage, and 1,969 were minor accidents. The whole number of wrecks and casualties other than collisions on and near our coasts reported during the year 1875—76 was 2,982, or 335 less than the number reported during the twelve months under discussion.

"The localities of the wrecks, still excluding collisions, are thus given:—East coasts of England and Scotland, 1,140; south coast, 630; west coast of England and Scotland,

* Our information is derived from an article on the subject in *The Life-boat* for November 1st, 1878.

and coast of Ireland, 1,259; north coast of Scotland, 129; and other parts, 159. Total, 3,317. "It is recorded that the greatest destruction of human life happened on the north and east coasts of England and Scotland."

It is interesting to observe the ages of the vessels which were wrecked during the period under consideration. Excluding foreign ships and collision cases, 221 wrecks and casualties happened to nearly new ships, and 396 to ships from 3 to 7 years of age. Then there are wrecks and casualties to 631 ships from 7 to 14 years old, and to 907 from 15 to 30 years old. Then follow 459 old ships from 30 to 50 years old. Having passed the service of half a century, we come to the very old ships, viz., 71 between 50 and 60 years old, 33 from 60 to 70, 24 from 70 to 80, 9 from 80 to 90, and 5 from 90 to 100, while the ages of 68 of the wrecks are unknown.

On distinguishing these last named casualties near the coasts of the United Kingdom, according to the force of the wind at the time at which they happened, we find that 739 happened with the wind at forces 7 and 8, or a moderate to fresh gale, when a ship, if properly found, manned, and navigated, can keep the sea with safety; and that 1,046 happened with the wind at force 9 and upwards, that is to say, from a strong gale to a hurricane.

"We must say one word on the subject of casualties to our ships in our rivers and harbours, as the fearful calamity to the steamer *Princess Alice* in the Thames directed afresh intense attention to them throughout the civilised world. We find from the Wreck Register Abstract that the total number during the year 1876–77 was 984, of which 17 were total losses, 245 were serious casualties, and 722 minor casualties.

"Of these casualties, collisions numbered 658, founderings 13, strandings 184, and miscellaneous 129.

"These 984 casualties caused the loss of or damage to 1,725 vessels, of which 1,020 were British sailing-vessels, 560 British steam-vessels, 118 foreign sailing-vessels, and 27 foreign steam-vessels. The lives lost in these casualties were 15.

"With reference to the collisions on and near our coasts during the year 1876–77, 48 of the 847 collisions were between two steamships both under way, irrespective of numerous other such cases in our harbours and rivers, the particulars of which are not given in the Abstract. No disaster at sea or in a river is often more awful in its consequences than a collision, as was too strikingly illustrated in the cases of the German ironclad, *Grosser Kurfürst*, and the Thames steamer, *Princess Alice*.

"As regards the loss of life, the Wreck Abstract shows that the number was 776, and of these 92 were lost in vessels that foundered, 57 through vessels in collision, 470 in vessels stranded or cast ashore, and 93 in missing vessels. The remaining number of lives lost (64) were lost from various causes, such as through being washed overboard in heavy seas, explosions, missing vessels, &c.

"This number (776) may appear to the casual observer a comparatively small one by the side of the thousands who escaped disaster from the numerous shipwrecks before mentioned. We are, however, of opinion that it is a very large number; and when we bear in mind the inestimable value of human life, we are convinced that no effort should be left untried which can in any way lessen the annual loss of life from shipwreck on our coasts.

"On the other hand, great and noble work was accomplished during the same period, 4,795 lives having been saved from the various shipwrecks. In bringing about that most important service, it is hardly necessary to say that the craft of the National Life-boat Institution played a most important part, in conjunction with the Board of Trade's rocket apparatus, which is so efficiently worked by the Coastguard and our Volunteer Brigades.

"Nevertheless, the aggregate loss of life is very large, and so is the aggregate destruction of property. The former is a species of woe inflicted on humanity; the latter is practically a tax upon commerce. While the art of saving life on the coasts is understood (thanks to the progress of science—the earnestness of men—and the stout hearts of our coast population), the art of preserving property is as yet but imperfectly known amongst us, and still more imperfectly practised.

"On reviewing the Wreck Register Abstract of the past year, we are bound to take courage from the many gratifying facts it reveals in regard to saving life, which, after all, is our principal object in commenting upon it. Noble work has been done, and is doing, for that purpose; and is it not something, amidst all this havoc of the sea, to help to save even one life, with all its hopes, and to keep the otherwise desolate home unclouded?"

Among the useful works undertaken by the National Life-boat Institution is the discussion in its journal of all matters connected with the art of swimming, and swimming and floating apparatus. The Society also issues a valuable circular on the "Treatment of the apparently Drowned," to which further allusion will be hereafter made. The writer is so satisfied that no humane or charitable institution in the wide world is better or more economically managed than that under notice, that he would urge all readers of THE SEA to contribute to its funds. And although every reader may not be able to afford his guinea or guineas, he can contribute his shillings or half-crowns, and his influence in aiding one of the local branches, or in forming new ones. A number of life-boats stationed on various parts of the coasts were the gifts of other associations and bodies. The Civil Service, Corn Exchange, Coal Exchange, Freemasons, Odd Fellows, Foresters, Good Templars, and other orders, have contributed nobly. Several boats and stations, generally named after the particular fund, were contributed by London and other Sunday-schools, Jewish scholars, commercial travellers, workmen, yacht, boat, and other clubs; while three were the result of an appeal to the readers of the *Quiver*, two are credited to the *Dundee People's Journal*, and one each to the *British Workman* and *English Mechanic*. And in concluding the second volume of THE SEA, the writer considers that he has a special right to urge the claims of the Society on his readers, the subject-matter of its pages being taken into account.

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